THE Soybean Digest

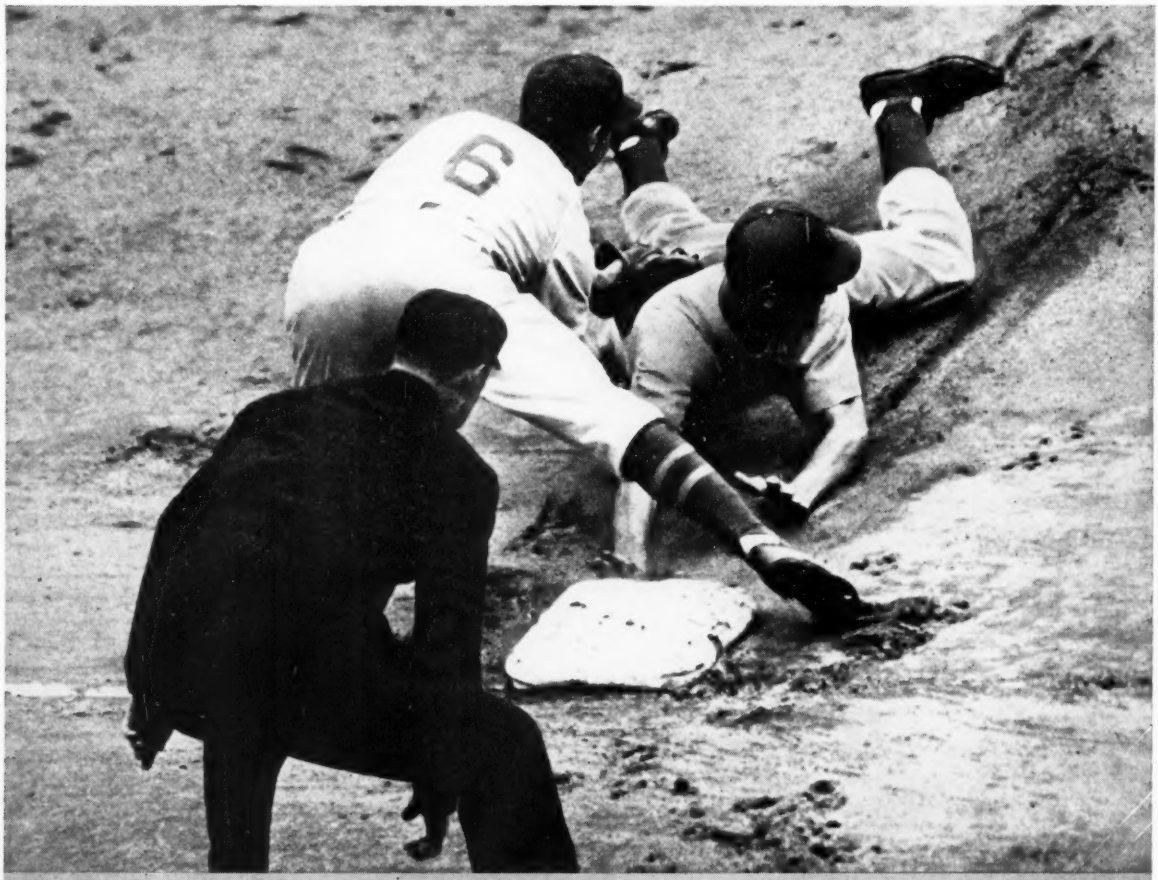
OFFICIAL PUBLICATION • AMERICAN SOYBEAN ASSOCIATION

University of Illinois Agronomy South Farm
scene of ASA field day and barbecue Aug. 16

AUGUST • 1956

VOLUME 16 • NUMBER 10

IT'S PERFORMANCE THAT COUNTS!



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THE Soybean Digest

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HUDSON, IOWA

Vol. 16 • August, 1956 • No. 10

IN THIS ISSUE

Editor's Desk 4
GEO. M. STRAYER
Late News 7
36th Annual Convention of the American Soybean Ass'n 10
Firms Who Are Exhibitors 12
Name Assistant Director of Council 13
Heat, Drouth and Soybeans 14
ROBERT W. HOWELL
Clean Beans Mean More Profit 17
Europe: Multi-Million-Dollar Market 18
GEO. M. STRAYER
Solvent Processing of Soybeans 20
J. L. TENNENT
Root Rots in Several States 26
Suggestions on Combining 28
August Crop Report 30
Grits and Flakes 32
Publications 34
Oilseed Storage Plentiful 34
Feeding 35
Builds Extraction, Refining Systems 35
New Products and Services 36
Washington Digest 38
PORTER M. HEDGE
Market Street 39
Late Reports 41
July Markets 42
In the Markets 46

THE SOYBEAN DIGEST

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safe-guarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the industry.

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EDITOR'S DESK

. . . By GEO. M. STRAYER

WE'RE DOING POOR JOB OF MARKETING

American agriculture is blessed with the most remarkable food production machine in the history of the world. Knowledge of plant breeding, fertilizers, machinery, soils, weather and markets has been blended together into a unit which produces more food and fiber per man hour of labor than has ever before been known. Not only does one man till many acres, but he now tills them much more intensively than ever before.

Unlike our production machine, our marketing mechanism has not kept pace with the needs of the nation and the world. We are doing a marvelous job of production—and except inside our own nation we are doing a very poor job of marketing.

We are victims of the war—and the war time needs of food and fiber. For a period of years there was always a customer waiting for everything we could produce. We expanded our production machine, threw it into high gear, forced it into top speed. We forgot about marketing.

Today the food and feed markets of the world are again a buyers' market. Customers are exercising choice. In our zeal to produce more we often forgot quality. Today we are paying the price. Wheat, rice, cotton, corn, sorghums and other commodities are building up in supply. Either our quality is not acceptable, the price is too high, or exchange is not available.

There is great need today for the enterprise of the traditional Yankee trader. Soybeans are not in surplus position—but unless we take every possible step to keep them out of that position we are going to be in trouble within a few years.

Let's resolve to sell as well as we produce! Let's make soybeans one commodity we can keep in private hands because we SELL it!

JAPANESE VISITORS TO THE U. S.

No. 1 customer for American soybeans among the nations of the world is Japan. About 22 million bushels of 1954 crop were delivered to her fats and oils and food industries. The potential is much larger.

About the time you receive this copy a delegation of Japanese trade respresentatives will arrive at the Urbana-Champaign meetings. They will represent the fats and oils manufacturers (soybean crushers or processors), the importers, the miso manufacturers, the soy sauce manufacturers, and the tofu manufacturers. These five gentlemen will be official representatives of their respective trade associations, are the men who have much to do with the purchases made by their association members. They will come as members of a team provided in the market development project written between the American Soybean Association and the Japanese trade groups, and now in operation.

Accompanying these five men will be two gentlemen traveling at their own expense. One will represent the agency which does the sampling, grading and weighing on a large portion of the imports. The other will represent one of the largest buyers of American soybeans for the manufacture of monosodium glutamate.

A comprehensive itinerary of visits to soybean production, handling, sampling, grading, shipping, and exporting, along with processing and the manufacturing of specialty products, has been planned for the group. Their expenses within the United States will be borne by the American Soybean Association from funds contributed by producers and handlers throughout the soybelt.

A number of you have been asked to make your plants and your fields available for inspection by these Japanese gentlemen. Others will be contacted as travel plans finalize. Between 4 and 5 weeks of travel and contacts have been planned, and it is our sincere hope that as these gentlemen return to Japan they will have an understanding of the soybean industry of the United States which will enable them to better serve their respective industries. An increasing market for American soybeans should result.

CONVENTION WELL WORTH YOUR TIME

The 1956 convention of the American Soybean Association should be a historic one. Operational plans for the Soybean Council of America, which your editor has been advocating for a long period of years and which are scheduled to go into effect on Sept. 1, will be unfolded.

Significant also is the fact that this convention observes the 20th anniversary of the U. S. Regional Soybean Laboratory, headquarters of the soybean varietal development work carried on jointly between USDA and the state colleges and experiment stations.

At no place or time will so much soybean information be available in so short a time to producers and handlers of soybeans as on the convention program on Aug. 14 and 15 at Urbana. And don't forget the field trip on the morning of the 16th, followed by the barbecued chicken luncheon! If there is still time to make plans, we suggest you do so.

. . . and Columbian Engineers help Kellogg Grain Co. solve a Country Elevator Problem

The Problem: Small available land area . . . need to add capacity and modernize handling of grain . . . need to replace the elevator that burned down at Grant, Nebraska.

The Answer: Columbian engineers solved the problem with a "three-way-stretch" design:

1. Stretch use of land by compact grouping of multiples of Columbian Bolted Steel Tanks.
2. Stretch capacity by careful tailoring of tank sizes and heights to grain handling needs of that area.
3. Stretch facilities for modern service and greater profits by incorporating blending and classifying tanks with adequate storage . . . and by including three legs (2 in head house, 1 outside) for fast handling of customers' grain.

The Result: A compact, efficient, modern country elevator . . . one that has the fire-safety of steel . . . the *tight* Columbian construction which keeps out vermin and weather—avoids rot or contamination . . . that has rapid blending and classifying facilities . . .

Columbian Bolted Steel Tanks are ideal for storage of large and small grains, rice, beans, cotton seed meal, peas . . . and because of tightness, widely used for storing dehydrated alfalfa under inert gas pressure. The versatility available in sizes and heights, the ease of construction and the quick expansion of capacity by adding completely matching tanks at any time, are reasons why Columbian's "New Look" is today's fashion in Country Elevators.

Why not let Columbian engineers help you with your next installation — or the expansion of your present capacity? Write for new Columbian Grain Tank book.

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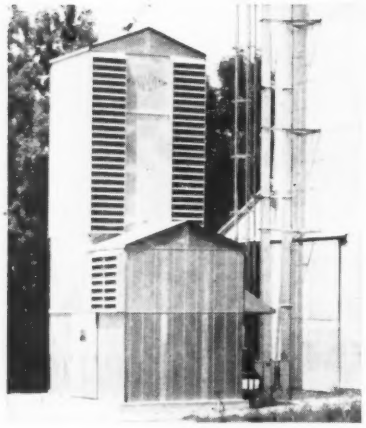

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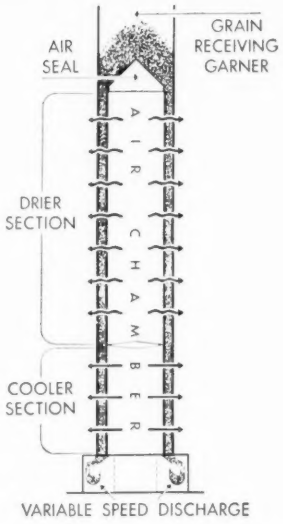
It's warm AIR that does the drying! And because of the famous Shanzer narrow screen column design, all the grain is dried uniformly and at just the right flow rate, with tremendous quantities of thermostatically controlled low temperature air. Likewise, the grain is uniformly cooled to the outside air temperature. Shanzer vertical screen column construction eliminates both impact damage to grain and obstruction to grain flow; it prevents overheating or uneven drying of grain.



SHANZER MODEL "20"

Completely enclosed and automatic, the Model "20" is ideal for the medium size grain elevator and producer. Dries and cools grain in one economical operation. Modular design is adaptable to a wide variety of installation requirements. Other standard sizes are also available in proven capacities of 100 to 1500 bushels per hour in single units.

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***Comparison of Shanzer "20" and ordinary type drier of the same "quoted capacity"**

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Ordinary type drier	33
Shanzer "20" . .	193

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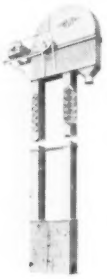
L. M. McCorkle, president, Waldo Supply Co., Waldo, Ohio states: "We bought our first Shanzer Drier in 1950—a '20', and when we expanded our service in 1954 we purchased the larger Model '30'. Obviously we like Shanzer products. The men wish every other piece of equipment required as little repair and supervision as Shanzer Driers."

"MAX-i-PACITY" BUCKET ELEVATORS HAVE HIGH CAPACITY AND SMOOTH DISCHARGE ACTION



For positive performance in a height and capacity to fit your requirements, specify a Shanzer "Max-i-Pacity" Bucket Elevator. Available for shipment from stock in 24 hours. Complete size and capacity specifications on request.

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AMERICAN SOYBEAN ASSOCIATION

Late News

Aug. 6, 1956
Hudson, Iowa
Vol. 4, No. 13

Published 32 times yearly as a service to the soybean industry.

CAN HAVE BUMPER CROP

Allowing for the fact that the season's normal dry period is still ahead, crop prospects were mostly bright the first of August, and we may well have a bigger per acre yield on a larger acreage in 1956 than we had last year.

Many of our correspondents termed the condition of the crop excellent in their areas, and the **yield outlook "promising" to "the best in years."**

Moisture is generally ample to more than ample in Illinois, Indiana and Ohio. Timely rains over much of the bean belt have reduced the threat of widespread drouth, but **there are still spotted dry conditions in Iowa, Arkansas, Missouri, Nebraska and South Carolina.** The heavy producing area of the lower Missouri Bootheel and north Mississippi County, Ark., were reported hot and dry with the crop condition deteriorating daily.

ON-THE-SPOT REPORTS

Iowa conditions have been helped by recent rains, but prospects in the state range from the best in years to poor with some drouth still in the cash grain area of northwest central Iowa.

The Illinois crop reporting service calls soybeans benefitted by recent rains "strong contenders for bumper and possibly record yield." However, J. E. Johnson, Champaign, Ill., cautions that he has never harvested a large yield from excessive vegetative growth. "Beans do not do too well with heavy rainfall. Producers report some lodging even at this early date." But Johnson expects yields will be above 1955.

Jake Hartz, Jr., Stuttgart, Ark., calls conditions in southeast and south central Arkansas the "best we can ever remember." But a "hot dry August could change these prospects suddenly because **there is a heavy growth on the beans, and it will take a great deal of moisture to carry them through."**

The Ohio Valley Soybean Cooperative, Henderson, Ky., calls the crop prospect in southern Indiana and western Kentucky the "best for several years." Condition of the crop is called excellent in Minnesota. W. T. McKinney, Anguilla, Miss., says the yield outlook is "as good as we ever had."

J. Ross Fleetwood at the University of Missouri reports the prospect in Missouri is the best in years, and his present estimate is 24 bushel per acre. But he mentions 100-degree temperatures over the state that may change the outlook.

D. G. Scott, Marysville, Ohio, reports that beans planted late on account of rains have come along fine and the yield outlook is extra promising.

H. W. Perrow, Cameron, S. C., reports a sorry prospect there due to lack of moisture.

Dixon Jordan, Standard Commission Co., Memphis, writes that scattered showers in the Midsouth have kept the overall condition excellent, with **the yield outlook above average for this date.**

The Ontario Soya-Bean Growers' Marketing Board reports: "In many cases crops are below average due to water damage, late planting, some scattered disease and soybean maggot. Difficulty is experienced in controlling weeds." The Board sees the Ontario acreage as up possibly 15%.

ARTICLES APPEARING IN LATE NEWS ARE NOT TO BE REPRINTED WITHOUT THE PERMISSION OF THE AMERICAN SOYBEAN ASSOCIATION.

Elmer L. Buster, Kansas Soya Products Co., Emporia, reports **Kansas observers believe USDA's acreage report for the state was low by 50,000 acres, at least.** He sets the crop "with a good finish" at 6.5 million bushels (3.4 million last year).

STRAYER'S REPORT

Geo. M. Strayer, executive vice president of the American Soybean Association, reported in Washington last week on his market development survey for U. S. fats and oils in Europe. It was reportedly received with considerable enthusiasm by USDA officials and trade representatives present.

Strayer recommended a market development agreement between the Soybean Council of America and USDA's Foreign Agriculture Service, with the setting up of a general office in Europe, possibly in Rotterdam. **He suggested that the first market development project be set up at the earliest possible date in Spain to cover technical work badly needed by the Spanish oil industry.** This would be followed by work in Italy, Germany, the Netherlands, and Austria, in that order.

Strayer sees a continuing good market to be had in Europe for both soybeans and fats and oils for a good many years if we go after it. **He indicated a potential increase of 60 to 70% over a period of years.**

MARKET OUTLOOK

July 1 soybean stocks in all positions were slightly less than a year ago, 64.1 million bushels compared with 66.4 million the same date a year ago. For the complete report see yellow page at the back.

Processors crushed 22.2 million bushels in June compared with 24.6 million bushels in May, reports Bureau of the Census.

Soybeans exported and inspections for export in the period Oct. 1-July 20 totaled 59.6 million bushels compared with 51.2 million bushels for the same period a year ago, according to Agricultural Marketing Service.

The total supply of edible oils next Oct. 1 won't be greatly different than a year ago on the basis of USDA's July crop report. **The volume of edible oils and fats available for export will be roughly 15% smaller than the total in the current season.** The latter is estimated at about 2.7 billion pounds, roughly 2 billion pounds of which will have been shipped for dollars; the balance sold under Public Law 480 programs.

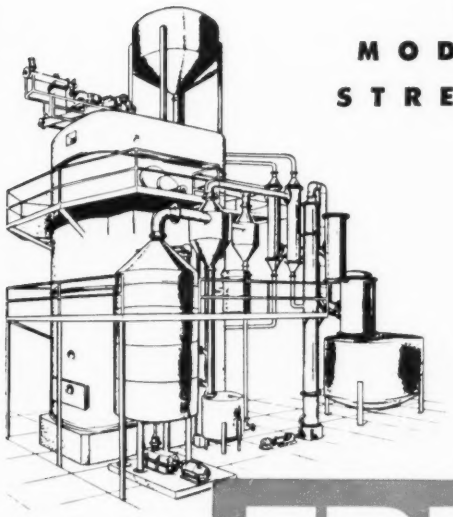
	Cash prices July 30
Soybeans, No. 2 yellow, Chicago, bu.	$ 2.42
Soybean oil meal, Decatur, ton	53.00
Soybean oil, crude, Decatur, lb.	.12

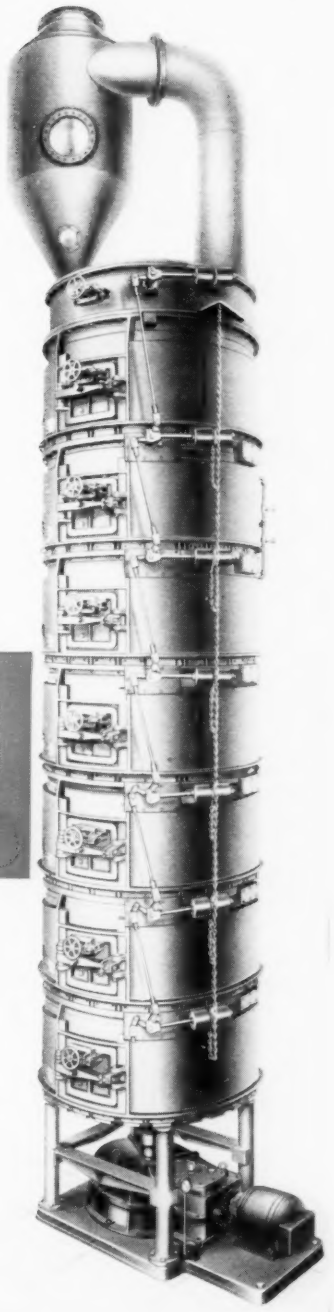
	Cash price to farmers for old crop No. 1 soybeans July 30	Cash price to farmers for old crop No. 2 soybeans July 30	Price to farmers for new crop soybeans July 30	Retail cash price for bagged soybean oil meal July 30
Ill.	$2.30@$2.35	$2.31	$2.15@$2.35	$63@$80
Ind.	2.35@ 2.42	2.28	2.08@ 2.30	88.50
Iowa	2.30		2.10	77
Kans.	2.32	2.32	2.08	72@ 74
Ky.	2.29			66.70
Minn.	2.35		2.03	70
Mo.	2.42		2.24	70
N. C.		2.00@ 2.35		75@ 80
Ohio	2.43@ 2.48		2.25@ 2.28	
S. C.		2.40		
Tenn.	2.25	2.40	2.05	65@ 73
Va.		2.20		
Ontario		2.16		

follow the trend

EXPAND
MODERNIZE
STREAMLINE

cut operating costs
reduce solvent loss





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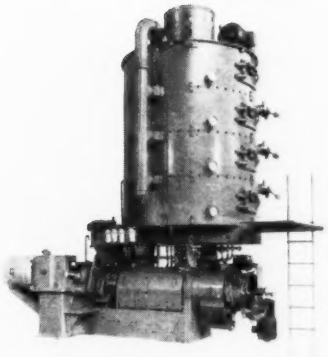
French, the world's largest manufacturer of vegetable oil processing equipment, can show you how to cut operating costs . . . increase capacity . . . and improve product quality. Our engineers have made complete studies of many operating plants of all makes—and have shown management how to cut costs and increase capacity . . . all at very low cost. Ask us to make recommendations for boosting the efficiency and profits of your plant. Write to FOMMCO, Extraction Division, Piqua, Ohio.



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Geo. M. Strayer, executive vice president of the American Soybean Association and executive director of the Soybean Council of America.

Your Copy of the Program:

36th Annual Convention American Soybean Association

Annual Meeting National Soybean Processors Association

Illini Union, Urbana, Ill., Aug. 13-16

The Meeting in Brief

Aug. 13 — Annual business meeting, National Soybean Processors Association, and meeting of National Soybean Crop Improvement Council.

Aug. 14-15 — Formal program, 36th annual convention, Amerrican Soybean Association.

Aug. 14, 7:30 p.m.—Annual banquet and presentation of honorary life memberships, American Soybean Association.

Aug. 15, 11:30 a.m.— Ladies' luncheon, Urbana-Lincoln Hotel and bus trip to Allerton Park, Monticello, Ill.

Aug. 16—Tour of the U. S. Regional Soybean Laboratory, University of Illinois South Farm, and Northern Utilization Research Branch, at Peoria, Ill. Chicken barbecue luncheon at University South Farm at noon.

CONVENTION PROGRAM

(Tentative and subject to change)

Monday, Aug. 13

9:00 a. m.
Exhibits open.

9:30 a. m.
Board of directors, American Soybean Association.

1:30 p. m.
Nominations committee.
Resolutions committee.
Japanese visitation team and hosts.

Tuesday, Aug. 14

9:15 a. m. Albert Dimond, presiding
President, American Soybean Association.

Greetings, Dr. T. S. Hamilton, associate director, Illinois Agricultural Experiment Station.

"Soybeans in Illinois," Dr. W. L. Burlison, retired chairman, department of agronomy, University of Illinois, Urbana, Ill.

"The 20th Anniversary of the U. S. Regional Soybean Laboratory," J. L. Cartter, director, U. S. Regional Soybean Laboratory, Urbana, Ill.

"Progress in Soybean Research at the Northern Utilization Research Branch," L. L. McKinney, Northern Utilization Research Branch, Peoria.

"The Harvesting of Soybeans," D. C. Heitshu, chief engineer, John Deere Harvester Works, Moline, Ill.

"Soybeans in U. S. Department of Agriculture Marketing Programs," speaker to be announced.

1:30 p. m. H. H. Huddleston, presiding
Vice president, American Soybean Association.

"Japan, Soybean Gateway to the Orient," Ersel Walley, director, American Soybean Association, and author of program of operation of Japanese-American Soybean Institue, Fort Wayne, Ind.

"Irrigation of Soybeans in Various Soybean Growing States," J. W. Calland, managing director, National Soybean Crop Improvement Council, Decatur, Ind.

"Recent Developments in Soybean Disease Work," John M. Dunleavy, plant pathologist, Iowa State College, Ames, Iowa.

"Factors Affecting Growth and Maturation of Soybeans," R. W. Howell, plant physiologist, U. S. Regional Soybean Laboratory, Urbana, Ill.

Field trip by film to soybean fields in Florida, Arizona, California, Illinois, North Carolina and the Mississippi Delta.

7:30 p. m.
Annual convention banquet.
Entertainment.
Presentation of honorary life memberships.

"It's Up to You," Dr. Frank H. Beach, professor of marketing, University of Illinois.

Wednesday, Aug. 15

9:30 a. m. Albert Dimond, presiding
President, American Soybean Association.

Annual business meeting, American Soybean Association.

10:30 a. m. Howard L. Roach, presiding
President, Soybean Council of America, Inc.

"Organization and Operation of the Soybean Council of America," Howard L. Roach, president; R. G. Houghtlin, secretary; Albert Dimond, treasurer; Geo. M. Strayer, executive director; and B. F. Butler, legal counsel.

AGRONOMY SEEDHOUSE on UI South Farm will be headquarters for field day at soybean meetings Aug. 16.

Hostes: University of Illinois and U. S. Regional Soybean Lab

Features: 20th anniversary of the Lab * reports on export markets * annual banquet * ladies' tour * field trips * movies * barbecue chicken lunch

11:30 a. m.

Luncheon for the ladies, Urbana-Lincoln Hotel.

Bus trip to Allerton Park.

(Luncheon tickets will be purchased by ladies. American Soybean Association will furnish transportation to and from Allerton Park.)

1:30-3:30 p. m. ..... **Jake Hartz, Jr., presiding**

Arkansas director, American Soybean Association .

Panel discussion, "U. S. Soybeans in the Market Place," J. W. J. Stedman, marketing specialist, fats and oils division, Foreign Agricultural Service, U. S. Department of Agriculture, Washington, D. C.; Elmo Shaw and Howard Kurtz, Board of Grain Supervisors, Agricultural Marketing Service, USDA, Chicago; Ersel Walley; also a soybean processor, soybean buyer, exporter and producer to be named.

3:30 p. m.

"Price Outlook for 1956 Soybean Crop," T. A. Hieronymus, associate professor agricultural economics, University of Illinois.

4:00 p. m.

Movie, "U. S. Soybeans at Osaka Trade Fair," by Marion Hartz, Jacob Hartz Seed Co., Stuttgart, Ark.

Thursday, Aug. 16

8:30-10:00 a. m.

Visit to U. S. Regional Soybean Laboratory.

9:30 a. m.

Field trip to South Farm, University of Illinois.

12:00 noon

Barbecue chicken luncheon, courtesy Illinois soybean processors.

10:00 a. m.-4:00 p. m.

Open house, Northern Utilization Research Branch, Peoria, Ill.

You'll See These Men in Action at ASA Convention

Howard L. Roach, president of the Soybean Council of America.

Albert Dimond, president of the American Soybean Association and treasurer of the Soybean Council of America.

For a Late Convention

Housing Reservation

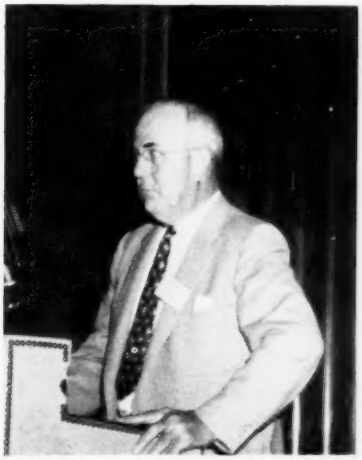
Phone, wire or write:

J. L. CARTTER

160 Davenport Hall

Urbana, Ill.

R. G. Houghtlin, president of the National Soybean Processors Association and secretary of the Soybean Council.



David G. Wing, vice president of the Soybean Council.

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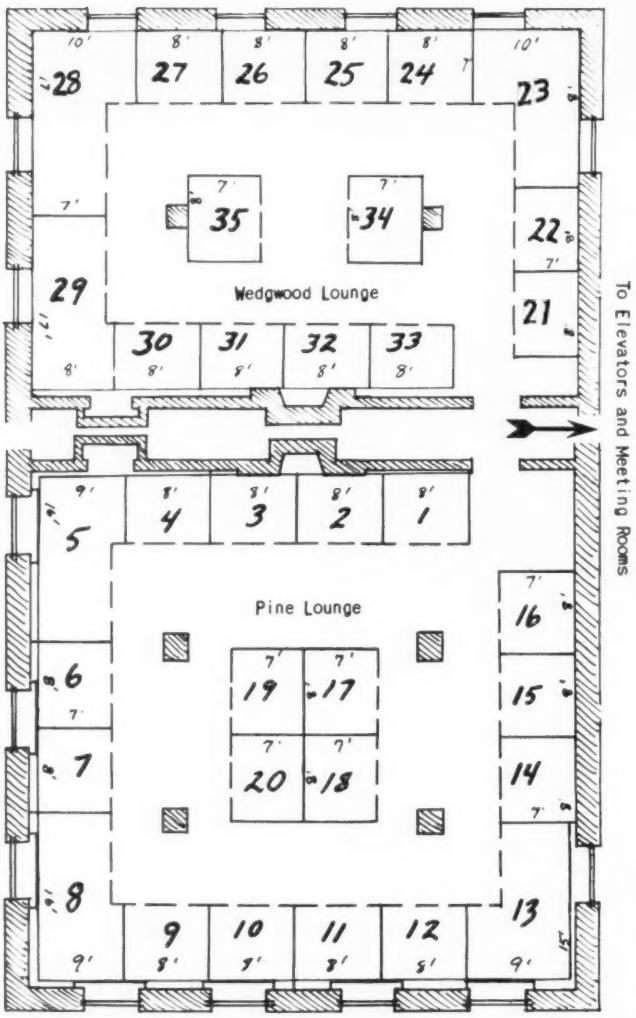

HOTEL FLOOR plan showing exhibit booths.

You Will Meet These Firms at Urbana

YOU WILL want to visit the convention exhibits while at the combined NSPA-ASA meetings at Illini Union in Urbana, Aug. 13-15.

All exhibits are within easy access of the meeting hall. And the wide range of equipment and services that will be on display will be well worth your time. You will find the men in charge eager to make your acquaintance and to be of service.

Here are the firms that had reserved exhibit space at press time:

Aeroglide Corp.

Agricultural Laboratories, Inc.

Air-O-Vator Co. of Illinois.

Albert Dickinson Co.

V. D. Anderson Co.

Arkell Safety Bag Co.

Blaw-Knox Co.

R. W. Booker & Associates

Corn States Hybrid Service

Crown Iron Works Co.

Daycom, Inc.

A. T. Ferrell & Co.

Hess Terminal Corp.

S. Howes Co., Inc.

Merrill Lynch, Pierce, Fenner & Beane

National Association of Margarine Manufacturers

Penola Oil Co.

PTC Cable Co.

Seedburo Equipment Co.

Shanzer Manufacturing Co.

The Soybean Digest

Urbana Laboratories

U. S. Rubber Co.

Confused Between Champaign, Urbana?

MEMBERS of the American Soybean Association and the National Soybean Processors Association who attend the joint national meeting in Champaign-Urbana, Ill., in August probably will find a little confusion in deciding which town they are in at any given moment.

The two cities are contiguous, the courts decided a couple of years ago. That was during a squabble over whether to merge the two cities of Champaign and Urbana into one city—Champaign-Urbana, which is the way everyone thinks about it anyway. Being contiguous means they are jammed up against each other. And that the joining line runs right through the University of Illinois campus, where the convention will be held.

The joining line—or the dividing line, depending upon your viewpoint—runs along the east curb of Wright Street, the main thoroughfare in the central part of the campus. The University's main buildings are along the east side of the street, which technically puts them in Urbana. The Illini Union Building, where most convention sessions will be held, is a half a block into Urbana.

A story about the parking meters often amuses visitors. It seems the Champaign traffic department wanted to put parking meters along Wright Street. And so they did. Then the Urbana city officials pointed out that those on the east side of the street were in Urbana, and so Urbana should have the money. Champaign argued that cars parked along the curb were in Champaign, so the money shouldn't be split at all. Neither would give in and now there are parking meters only along the west side of Wright Street.

Champaign and Urbana are two separate municipalities. Urbana has a population of about 25,000 and Champaign of near 40,000. They have separate shopping facilities, post offices, government, etc., but common utilities.

Tour to Allerton Park

ONE of the most beautiful properties in the Midwest is Robert Allerton Park near Monticello where the women of the convention will go on a bus tour Aug. 15.

The former Allerton estate, which was presented to the University of Illinois in 1946, covers some 6,000 acres, dominated by a stately English Georgian mansion with extensive formal and informal gardens.

Lying in the heart of the rolling, black-soiled woodlands of the Sangamon valley, the area is administered as a public park and a forest, as an example of landscape gardening.

Name Asst. Director of Council

Wayne Lichty

WAYNE LICHTY, Black Hawk County, Iowa, farmer, has accepted the position of assistant executive director of the Soybean Council of America, Inc., with his headquarters at Hudson, Iowa.

Mr. Lichty, who is 35, will work under Executive Director Geo. M. Strayer. His original contacts will be with soybean buyers.

Mr. Lichty is a graduate of Orange Consolidated High School near Waterloo, Iowa, and he attended Iowa State College. He has been associated with his father and two brothers in farming 560 acres in Black Hawk County.

He is married and has two children.

For the past 12 years Mr. Lichty has refereed basketball games and the last 2 years he has had a full schedule in the Big 7 college conference. Last fall he represented the Big 7 at a meeting of the National Intercollegiate Athletic Association at Evanston, Ill.

He is affiliated with the Orange Church of the Brethern and is president of the Orange Consolidated school board. He is active in Kiwanis and the YMCA.

Backing for the recently formed Soybean Council of America is industrywide, with endorsements from producer and handler groups. Soybean processors are cooperating to the fullest extent and it appeared that the great bulk of the processing capacity of the nation would be back of the Council's efforts.

Stated E. Howard Hill, president of the **Iowa Farm Bureau Federation:** "We would like to commend the American Soybean Association for their efforts in developing self-help programs to explore and develop increased markets for soybeans. We understand that the Soybean Council of America was incorporated for this purpose. There is a tremendous amount of work to be done in the field of education, research, and promotion and this field offers real possibilities for improving farm income.

"We wish the organization every success and will be very happy to cooperate in attaining the objectives."

States Verlon Welch, commodity director, **Minnesota Farm Bureau Federation:** "We are always happy to see that more and more people are able to aid themselves and their industry by constructive work, such as the Soybean Council. Your goals and objectives are laudatory and I'm sure your work will continue to be commendable."

Wrote Mark G. Thornburg, executive secretary, **Western Grain and Feed Association:** "I am sure you are working on the right policy and that much good will come from the organization. The check-off plan has proven most satisfactory and helpful with live stock and feel the soybean producers and processors will support such a plan.

"We of the Western Grain and Feed Association will be pleased to support and urge our members to contribute to the Soybean Council of America, Inc."

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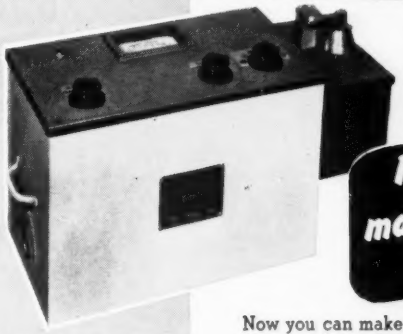

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Heat, Drouth and Soybeans[1]

High temperatures have less effect on the soybean crop than does low soil moisture

By ROBERT W. HOWELL

Plant Physiologist, Field Crops Research Branch, Agricultural Research Service, U. S. Department of Agriculture

"MY BEANS ARE standing still, it's just too hot and dry."

Statements like that are common in the soybean belt when midsummer temperatures soar and especially when the weather is dry.

Many people quite properly link closely the effects of high temperatures and very dry weather because high temperatures certainly are more serious when the soil is dry. The effects of drouth and heat can be aggravated by disease or by competition with weeds.

The relationships between heat, drouth, and soybean production are not simple. As in many other research areas, our understanding of these relationships is incomplete. Such information as is available is the subject of this article.

In general, either extreme drouth or extremely high temperatures are likely to cause some damage. If drouth and high temperatures occur early in the season the damage will be less than if they occur late. An important consideration, therefore, is the stage of growth which has been reached when the adverse conditions occur. Soybeans have considerable stamina and can overcome early heat and dryness to resume normal growth and development when the weather is again suitable. If, however, the hot, dry weather occurs late in the season (that is, during pod filling) the plants have little chance to recover.

There is no doubt that high temperatures do affect growth; but if there is adequate moisture, it is unlikely that temperatures will get high enough or stay high long enough to cause a crop failure. Experiments show that temperatures above 100° affect plants adversely, but low soil moisture under practical conditions is considered more serious.

Soybeans are grown successfully under irrigation in California's Imperial Valley even though temperatures approaching 120° are common in July. Because of comparatively low night temperatures, essential functions such as cell elongation and pod set are relatively unaffected, and because farmers irrigate, moisture shortage is not a factor.

The principal practical effect of high temperature is to aggravate soil moisture problems.

Pod Filling Time

Most agronomists working with soybeans agree that the crop is more susceptible to injury by drouth during the pod filling period than during earlier stages of growth. A good illustration of this is a situation which happened on the experimental plots at Dwight, Ill., in 1955. This experimental field got no rain during July and up until Aug. 30. The day before the rain, the soil was powdery some 12 to 15 inches deep. On the night of Aug. 30, a 3-inch rain occurred. At that time, Hawkeye was nearly mature and Clark was in the early part of pod filling. The following data show some of the responses of these two varieties:

Dwight, Ill., 1955

	Yield	Seed Quality	Maturity
Hawkeye	17.2	3.8 (very poor)	9/13
Clark	22.6	1.0 (good)	9/27

In this case Hawkeye was so nearly mature that the heavy rain did it little good. On the other hand, pods of Clark were just beginning to fill and this variety was able to respond to the moisture. The Hawkeye yield of 17.2 bushels is only 51% of the average of 1952-54 at Dwight while the Clark yield is 78% of the average over that period.

Dwight is north of Clark's area of adaptation. The maturity date of Hawkeye in this planting, Sept. 13, is several days earlier than would be expected for the location. It was the earliest that Hawkeye had matured in several years at Dwight and was only one day later than the variety matured at Urbana, about 70 miles south. In most years Hawkeye at Dwight has matured from 6 to 12 days later than at Urbana. The maturity date of Clark was approximately the same as in other recent years and was 6 days later than at Urbana.

The effect on seed quality is also well illustrated by the data. The seed quality of Hawkeye, 3.8, is very poor. This seed would have low germination and its oil probably would have a high refining loss. The seed quality rating of Clark, 1.0, is the best possible rating on the scale which is used.

The early maturity of Hawkeye was probably more of a drying out than a normal maturation, since the beans stopped developing before all normal chemical activities had been completed. The result is lower quality oil and protein which specifically causes a higher proportion of refining losses. Because refining loss material must be removed, the value of the oil to processors decreases.

What are the effects of drouth earlier in the year? Obviously there is a requirement for sufficient moisture for germination and vegetative growth. Otherwise the plants would be lost at an early stage. However, the requirement for water is less than that after the plants have attained full size and full leaf surface.

Experience with such other crops as field beans, tomatoes, etc., has shown that drouth causes a lower level of starch and soluble carbohydrates and a reduced rate of photosynthesis. But the photosynthesis rate and levels of starch and other carbohydrates have usually returned to normal a few days after water has been added.

[1] Publication No. 280 of the U. S. Regional Soybean Laboratory.

Presumably soybeans respond in a similar manner. Severe weather conditions early in the plant's life delay maturity somewhat, but it is doubtful that drouth early in the growing season would cause a crop failure if adequate moisture conditions existed later.

Growers are frequently concerned about the supposed failure of the crop to set pods. Soybeans normally flower over a period of 2 to 3 weeks, and frequently no pods will be set by the earliest flowers. The number of pods set may be reduced by extreme environmental conditions, but the soybean plant normally sheds many flowers without their having set pods. Some pods may be shed even after they have begun to develop.

Recent greenhouse studies with Lincoln have shown that pods may result from as few as 20% of the flowers at a given node. At other nodes nearly all flowers may successfully set pods. The reasons for this variability are not understood, but it is clear that one should expect pods from only a fraction of the flowers.

In our studies, removal of all flowers from certain nodes has not resulted in formation of more flowers at the sites of removal, but has resulted in increased pod set at other nodes to compensate for the removal. Thus one might expect that poor pod set during a period of extreme heat could be balanced by improved pod set of flowers developing a few days later.

Pod Number and Yield

A number of years ago, McAlister and Krober of the U. S. Regional Soybean Laboratory found that the removal of as many as 30% of the pods when the seeds were about one-third full grown caused only a 12% reduction in the number of pods at maturity and caused no reduction in yield. Apparently pods which normally would not develop were able to do so because of the partial depodding. Furthermore, the seeds thus obtained were heavier, which compensated for their smaller number. When 40% or more of the pods were removed, the yield was slightly reduced.

The data from our recent studies and from those of McAlister and Krober illustrate the flexibility of the soybean plant and its ability to recover from the effects of severe conditions if more favorable conditions follow.

Effects of heat and drouth are aggravated by other elements in the environment, for example, weeds or diseases. Under drouth conditions, a weed infestation may cause severe or light losses, depending on the weed species involved and the stage of growth of weeds and soybeans when moisture stress occurs.

The seriousness of weeds is illustrated by some data obtained by Dr. F. W. Slife, of the University of Illinois. In 1954 Dr. Slife obtained a yield of only 5 bushels per acre from a Hawkeye planting in an uncultivated plot while in a cultivated check the yield was 25 bushels. The effects of known numbers of smartweed and foxtail plants have been studied closely by Drs. C. R. Weber and D. W. Staniforth at Iowa State College. They found that a given dry weight of weeds displaces roughly an equivalent weight of soybeans. The relationships of weeds and soybeans are quite complex, but under any conditions, the presence of weeds will result in more rapid depletion of soil moisture and thus hasten the onset of moisture stress.

SHORT GROWTH of soybean plants is typical effect of severe drouth. A soybean field near Patoka, Ill., September 1954. Mrs. Kent Pellett is in the field.

With some exceptions, soybean diseases are less serious when the weather is hot and dry. However, diseases such as brown stem rot (this disease blocks the water conducting system in the plant) may become established early in the season. If a drouth then occurs late, water movement may be blocked so that the drouth effects are aggravated by the disease. Dr. D. W. Chamberlain, of the Soybean Laboratory, says that the severity of brown stem rot and similar diseases might be increased by drouth conditions late in the season.

According to Dr. John Dun'eavy, at Iowa State, root rots which attack young plants do more damage when dry conditions prevail at about the seedling stage. With sufficient moisture, plants attacked by certain root rots may be able to put out adventitious roots and thus recover. But new root formation is curtailed greatly by very dry soil; hence, under such conditions the plants would fail to recover.

Major emphasis has been placed in the preceding discussion on the effects of drouth as opposed to temperature. As has been pointed out, it is considered unlikely that high temperatures alone would cause serious damage. This does not mean that temperature is unimportant. Within normal temperature ranges, the oil percentage in the seeds and, therefore, the value of the crop to the processor is directly related to temperatures during the growing season. We now know that in the period 3 to 6 weeks before maturity the oil-forming mechanism in the plants is very sensitive to temperatures. During that period high temperatures (if not adversely high) are more effective in causing a high oil percentage than high temperatures at any other time.

Extreme Temperatures

Extremely high temperatures (over 100°) earlier in the season may have adverse effects. For example, fairly brief periods of high temperature greatly reduce the rate of node formation, and the rate of growth of internodes. There is no indication, however, that the plants can't resume normal growth when cooler temperatures return.

Workers in a number of states have tried to find ways to help the soybean better withstand extreme drouth. Good moisture conservation practices are recommended. For example, the agronomy department of the University of Illinois recommends working and planting on the contour, leaving seedbeds rough so that rain will soak in more rapidly, reduced planting rates, and weed control.

Dr. Edgar Hartwig, Soybean Laboratory agronomist at Stoneville, Miss., has obtained information of practical importance on the value of deep tillage in improving drouth resistance. Fields on which cotton had

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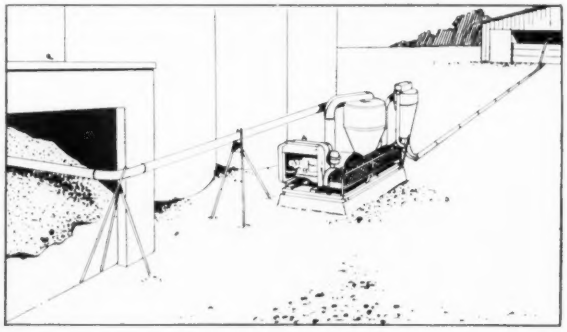

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shown severe drouth injury were "chiseled" to a depth of 16 inches in December, using a Caterpillar tractor with chisels 40 inches apart. In the following season when drouth conditions again prevailed, the yield of Lee soybeans on the "chiseled" field was 30 bushels per acre. On an adjoining unchiseled field, drouth injury occurred early, killing large areas. Very low yields were obtained from the surviving plants. Deep tillage, therefore, appears to be advantageous in areas with considerable winter precipitation and a hard plow sole.

The results of irrigation studies in a number of states have not been conclusive. In some cases where soil moisture levels have been critically low, irrigation has increased yields, sometimes up to a normal good level; but so far irrigation in fields with adequate natural moisture has not increased yield. In Nebraska, increased yields have resulted from additional irrigations up to four. Elsewhere, in some experiments irrigation has resulted in impressive percentage increases in yield, while in others no benefit has resulted. In general, results of irrigation experiments have not been encouraging except in areas such as Nebraska and the Imperial Valley of California where natural moisture is normally low.

Because of the uncertainty of irrigation benefits and the variability of irrigation costs, it is recommended that anyone considering irrigating soybeans consult the departments of agronomy and agricultural engineering of his state agricultural experiment station.

Many people ask whether certain varieties should be recommended for drouth conditions. Probably the recommended varieties for each area are the best ones to use. For several reasons it is usually not desirable to plant a certain variety simply because it might have more drouth resistance. First, it is impossible to recognize a dry year at planting time. Second, there is no reliable information comparing the drouth resistance properties of different varieties. Third, the recommended varieties have been time-tested in different locations under varying conditions before being released, and have given the best average performance.

Expanded Program

Pillsbury Mills, Inc., feed division has taken a major step to expand its feed research program by purchasing a farm outside Clinton, Iowa, to be converted into a feed research center. Research activities will be developed by a committee of food division specialists including E. A. Blasing, director of nutrition, Dr. Spencer Morrison, technical sales director, and others. D. W. Hunter, feed administrator, will administrate the projects.

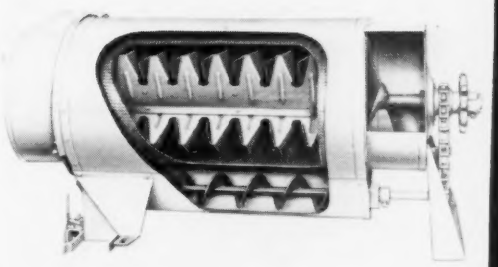
Clean Beans Mean More Profit

THE RECENT raising of soybean grading standards has resulted in greater emphasis being placed on producing cleaner soybeans. This means that dockage loss is going to be even greater this year. Weed loss in the past has averaged about $200 per farm.

This loss of farm income can be stopped by removing weed seed from the crop before it leaves the field. A low-cost, practical cleaner is made by the Hart-Carter Co., under the trade name of "ScourKleen."

In a ScourKleen, the grain is fed into a high-speed rotor. Its blades thin out the stream of grain and force dockage through the ScourKleen screen by centrifugal action. Grain continues on to the bin and the separated dockage is fed into sack or tank, as desired. The screen itself does not rotate. Screens can be quickly changed to adapt to any crop or condition.

If you wish to remove only the small seed dockage from the beans, the ScourKleen No. 1 screen can be used. To remove splits and large dockage slotted screens are available. If you do not wish to remove the splits, various sizes of round hole screens are offered. (The No. 1 screen is standard equipment. Other screens must be purchased separately.)



CUTAWAY photograph shows construction of typical ScourKleen. Note that grain is fed inside perforated screen where a combination propeller and back-switch blades break up the flow of grain for maximum cleaning efficiency. Grain is carried on out to combine tank while dockage is augered out into bags.

The ScourKleen keeps the dockage on the farm.

ScourKleens are available through equipment dealers for every make or model of combine—from one-man machines to larger harvesters. ScourKleen can be used to remove dockage from all crops harvested with combine.

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—Photo by USDA

UNLOADING soybeans in Hamburg, Germany. Floating elevators lift beans from ship's hold and deposit them in river lighters.

Europe: Multi-Million Dollar Market

But it will take a strong program of sales and service to hold it, says ASA secretary after on-the-job survey

By GEO. M. STRAYER

THERE are two great areas of interest in American soybeans and soybean products within the countries of Western Europe, judged by the information I was able to pick up from my contacts with governmental people in our American embassies, the people in charge of food programs for the governments of the Western European countries, and the traders, importers, crushers and foods manufacturers within those countries.

* * *

The first area of interest is the Mediterranean countries, where olive oil has been a staple food commodity through the centuries. Olive oil is an expensive product, when produced under even the best of conditions. The extremely hard freezes of the past two winters, together with the cold weather experienced last spring, have cut the crop far short of needs. Some olive groves which had been in production for 2,000 years have been killed and have been grubbed out. Some are being replaced with new trees.

Olive Oil Countries

I visited Spain and Italy. Both countries are now importing soybean and cottonseed oil in large quantities, because of the short 1955 olive crop. In both countries there will be continuing need for oil imports over a period of at least 5 years, as replacement for olive oil. I am convinced that as soybean and/or cottonseed oil are used in those countries, when the people learn to know them and learn how to use them, when some of the problems of blending and merchandising are solved, there can be a continuing market for soybean oil in those areas through a long period of years.

The people of the Mediterranean countries like olive oil. They have used nothing else for centuries. They like the strong odor and taste which are characteristic of that oil. It is used in a much more crude form than our seed oils in this country. Problems in proper blending and in handling have been encountered in Spain. For instance, all oil imported into Spain must come in drums, for there are no bulk handling facilities. It is costly basis of operation, must be remedied if we are to continue to supply that market. Such steps are being initiated.

I did not visit Greece, nor did I visit the North African countries. However, the information which I was able to pick up pertaining to those countries indicates they, too, have suffered olive grove damage and are in the market for oils. Dollar purchases have been made, and in the case of Spain and Italy purchases of oil under Public Law 480 have also been made.

* * *

We now have the job of assisting our buyers with proper use and handling of the oils which they have purchased. We must do everything we can to teach the peoples of those countries how to properly use the bland oils in their diets. If we can do so there is probability they will acquire a liking for the characteristics of soybean oil, will continue to buy it in quantity over a period of years. With the price differentials that now prevail we should have a continuing market. We do need to do the service work, the sales work, and make available the technical assistance to integrate our oils into the economies concerned.

In both Italy and Spain there is interest in importing whole soybeans. Italy has crushing facilities today, modern, adapted to crushing soybeans. Spain does not, with the exception of one plant. Both countries are launching integrated livestock economies, are aware of the value of soybean oil meal in such a program. Italy has recently sent a team of men to the United States to study our mixed or formula feed industry. Both countries offer a potential market for some whole soybeans for crushing purposes, but the quantities will not be large, and the price will have to be competitive with soybeans of other origins, and with other oilseeds.

Austria, too, offers a market for some quantities of edible oils. Unlike the Mediterranean countries, Austria uses lard and solid fats, along with the liquid oils. Austria has crushing facilities for oilseeds, which today are used only on domestic rapeseed, sunflower seed, and then stand idle most of the year. Vegetable oils are imported duty free, but duties apply to oilseeds, so oils will be imported until that situation is changed. Protein meals are not an important factor in Austria and will not be, so long as the extremely low livestock product prices prevail. There will be a market for oil in some quantities.

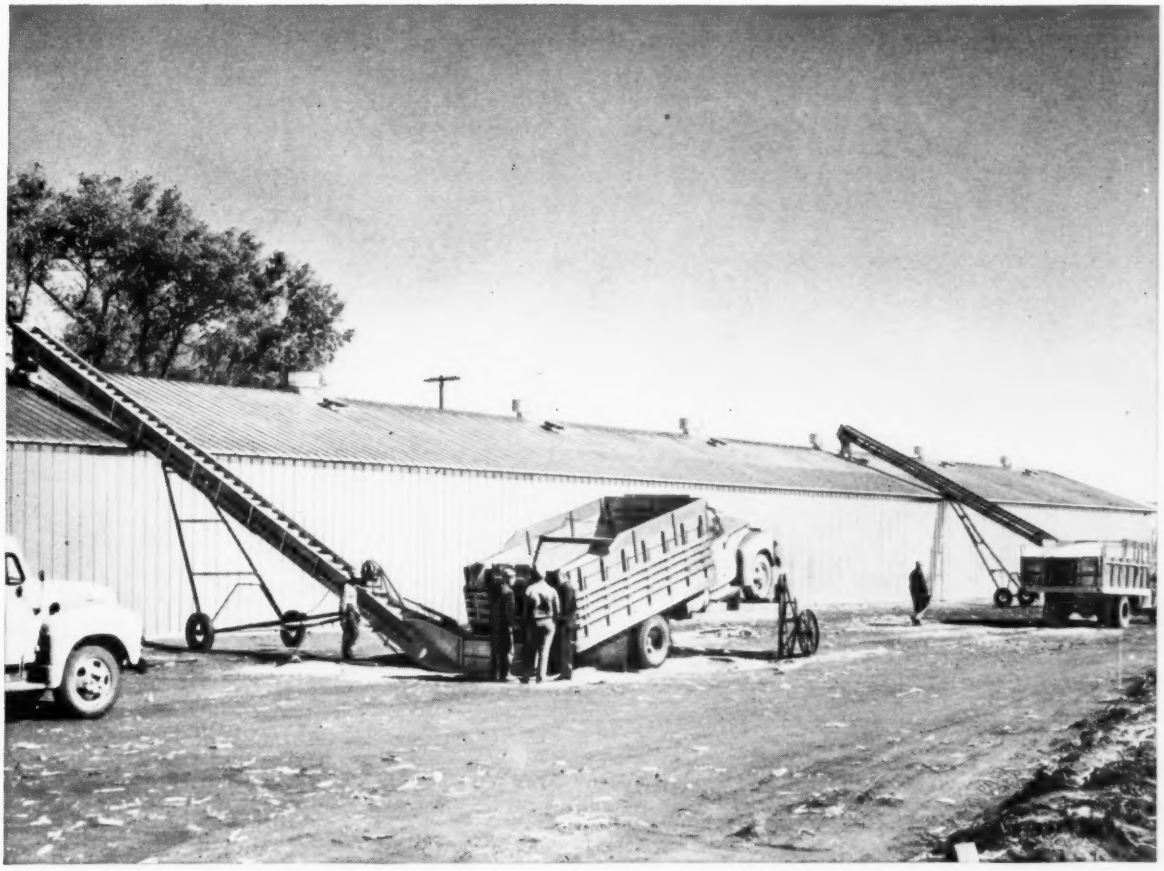
Northern Europe

Northern European countries offer quite a different market. Crushing facilities are already present. Animal industries are expanding. Oilseeds are being produced in some quantities. The cost is greater, in most cases, than the price of imported soybeans, but nationalistic programs within the countries demand a certain amount of self-sufficiency. Rapeseed is the most important oilseed crop, and it is my observation that less emphasis is being placed on it as the war years recede farther into the background.

* * *

Germany, Netherlands, Denmark, Sweden, Norway, Belgium, France and England all have oilseed crushing facilities, have purchased Amer-

(Continued on Page 33)



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UNLOADING soybeans in Hamburg, Germany. Floating elevators lift beans from ship's hold and deposit them in river lighters.

Europe: Multi-Million Dollar Market

But it will take a strong program of sales and service to hold it, says ASA secretary after on-the-job survey

By GEO. M. STRAYER

THERE are two great areas of interest in American soybeans and soybean products within the countries of Western Europe, judged by the information I was able to pick up from my contacts with governmental people in our American embassies, the people in charge of food programs for the governments of the Western European countries, and the traders, importers, crushers and foods manufacturers within those countries.

* * *

The first area of interest is the Mediterranean countries, where olive oil has been a staple food commodity through the centuries. Olive oil is an expensive product, when produced under even the best of conditions. The extremely hard freezes of the past two winters, together with the cold weather experienced last spring, have cut the crop far short of needs. Some olive groves which had been in production for 2,000 years have been killed and have been grubbed out. Some are being replaced with new trees.

Olive Oil Countries

I visited Spain and Italy. Both countries are now importing soybean and cottonseed oil in large quantities, because of the short 1955 olive crop. In both countries there will be continuing need for oil imports over a period of at least 5 years, as replacement for olive oil. I am convinced that as soybean and/or cottonseed oil are used in those countries, when the people learn to know them and learn how to use them, when some of the problems of blending and merchandising are solved, there can be a continuing market for soybean oil in those areas through a long period of years.

The people of the Mediterranean countries like olive oil. They have used nothing else for centuries. They like the strong odor and taste which are characteristic of that oil. It is used in a much more crude form than our seed oils in this country. Problems in proper blending and in handling have been encountered in Spain. For instance, all oil imported into Spain must come in drums, for there are no bulk handling facilities. It is costly basis of operation, must be remedied if we are to continue to supply that market. Such steps are being initiated.

I did not visit Greece, nor did I visit the North African countries. However, the information which I was able to pick up pertaining to those countries indicates they, too, have suffered olive grove damage and are in the market for oils. Dollar purchases have been made, and in the case of Spain and Italy purchases of oil under Public Law 480 have also been made.

* * *

We now have the job of assisting our buyers with proper use and handling of the oils which they have purchased. We must do everything we can to teach the peoples of those countries how to properly use the bland oils in their diets. If we can do so there is probability they will acquire a liking for the characteristics of soybean oil, will continue to buy it in quantity over a period of years. With the price differentials that now prevail we should have a continuing market. We do need to do the service work, the sales work, and make available the technical assistance to integrate our oils into the economies concerned.

In both Italy and Spain there is interest in importing whole soybeans. Italy has crushing facilities today, modern, adapted to crushing soybeans. Spain does not, with the exception of one plant. Both countries are launching integrated livestock economies, are aware of the value of soybean oil meal in such a program. Italy has recently sent a team of men to the United States to study our mixed or formula feed industry. Both countries offer a potential market for some whole soybeans for crushing purposes, but the quantities will not be large, and the price will have to be competitive with soybeans of other origins, and with other oilseeds.

Austria, too, offers a market for some quantities of edible oils. Unlike the Mediterranean countries, Austria uses lard and solid fats, along with the liquid oils. Austria has crushing facilities for oilseeds, which today are used only on domestic rapeseed, sunflower seed, and then stand idle most of the year. Vegetable oils are imported duty free, but duties apply to oilseeds, so oils will be imported until that situation is changed. Protein meals are not an important factor in Austria and will not be, so long as the extremely low livestock product prices prevail. There will be a market for oil in some quantities.

Northern Europe

Northern European countries offer quite a different market. Crushing facilities are already present. Animal industries are expanding. Oilseeds are being produced in some quantities. The cost is greater, in most cases, than the price of imported soybeans, but nationalistic programs within the countries demand a certain amount of self-sufficiency. Rapeseed is the most important oilseed crop, and it is my observation that less emphasis is being placed on it as the war years recede farther into the background.

* * *

Germany, Netherlands, Denmark, Sweden, Norway, Belgium, France and England all have oilseed crushing facilities, have purchased Amer-

(Continued on Page 33)

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Solvent Processing of Soybeans—Controlling the Product

The operations step by step. Some of practical problems met by the processor

By J. L. TENNENT

From talk before Tri-States Oil Mill Superintendents Association meeting at Biloxi, Miss.

FIRST of all, I would like to point out that there may be many things in good processing that I may overlook in this talk.

In processing, the first important thing is selection for storage. All beans should be checked for moisture and stored accordingly. It is, of course, best to clean beans before storage. This is not always done because of the tremendous amount of cleaning equipment required to clean a car of beans in 5 to 8 minutes. Many cars contain 100,000 pounds.

Some plants have surge bins and unload into this bin and out to the cleaning machinery.

It is the desire of most companies to add back the screenings that have been removed. This is done in the spent flakes before entering the desolventizer toaster or into the spent flakes or into the finished meal. The latter is not used in many places because additional equipment is needed to grind the screenings, etc.

In processing beans in the solvent extractor plants, the first ordeal is to clean beans of all tramp iron and other foreign matter that is harmful to equipment, or that could cause a spark of fire. All dirt or sand must be removed as preparation equipment will not last under sand and dirt in beans. The cracking rolls should be kept in good repair at all times. Good repair means good corrugation. This is necessary to crack the beans properly.

Is Experimental

Dehulling is something that is being experimented with in the Midwest and North. The hulls are removed after the beans have been through a two-pair-high or three-pair-high cracking roll. This type of hulling causes many fines of hull and bean, making separation of the meat from the hull very difficult. The objection is not being able to purify the hulls of all fine meats, which, of course, loses fat.

The hulls are introduced back into the stream of spent flakes ahead of the desolventizer toaster, or into the spent flakes ahead of grinding equipment.

It is my opinion that a different type machine, such as a Carver huller, would be much better for the dehulling operation. This would eliminate many fines and leave hulls larger, losing less fat in the operation of purification. We that have had cottonseed processing experience have a great advantage in this operation.

It is agreed that the beans should be heated and cooled or shrunk quickly, causing the hull to loosen easily in the hulling. At present many mills are experimenting in different ways of the dehulling. There are many advantages and some disadvantages too. The type of bean and location seems to be a factor in the dehulling also. Some have relatively small beans, and some larger than average. Many plants in Illinois and Minnesota have many different sizes.

Prior to dehulling, birdseed, etc., should be removed. This year we have encountered many black seeds that look very much like morning glory seed. These are very difficult to remove. If they are left in with the beans, they show very readily in the meal. They do not lose any of their black color. Meal with these black specks is very objectionable to the buyer or consumer. The large mixers will turn down meal containing any particles that can be detected with the eye.

We now reach the cracking rolls in preparation room, if we are not dehulling. There are two-pair-high and three-pair-high cracking rolls. These are corrugated in spiral of about 2 to 3 inches in the 42-inch rolls. Dirt in beans will cut out the cracking roll chills in about one-half to two-thirds of their normal life, unless removed from the beans. The bean should be cracked into pieces small enough to make a flake about the size of a dime after flaking.

After cracking we go into the bean heaters. There are several types of heaters used. It is said by many that the better heater is the stacked cooker as used in the old hydraulic mills. I have a different type and we are going to discard it and put in the stacked cooker or heater as it is called by at least one manufacturer.

The cracked beans should leave the heater at approximately 140° to 145° so as to reach the flaking rolls at 135° to 138° F. The flaking rolls are set up so that one roll runs slightly faster than the other, which causes a very slight shearing action and also creates a friction for heat. The flaking rolls should never be allowed to run under tension with no material going through them.

The flaking rolls are either one pair or two pairs in one frame. Both are excellent in my opinion. The chills are tapered .003 to .004 of an inch on each end for 3 inches. Some prefer a 4-inch extension. This is essential so that as the roll wears they may come together in the center and not produce a flake that is thick. The flakes will extract or give up the oil better if they are from .006 to .008 of an inch in thickness.

At this point it would be well to stress the point of flake temperature. The flakes should be not under 134° as they enter the extractor. This is for several reasons. First, to comply with safety precautions; second, to save steam; third, the better temperature for extraction of the oil.

As the hexane and miscella (which is oil and hexane) are circulated and recirculated, the vapors are given off. These are heavier than air, and force the air up and out the vent lines to the vent condenser where the hexane vapors are condensed to a liquid. No extraction system is safe until it reaches a sufficient temperature to work all air out of the entire system.

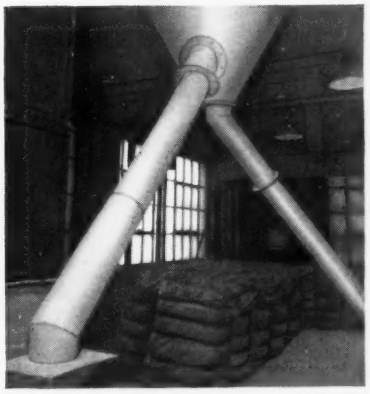
Enter Extractor

The flakes now enter the extractor. When I mention extractor, I speak of the basket or Rotocel extractor. I am not capable of discussing the Filtrex methods as yet, but certainly think it is well worth serious consideration for small plants at least.

The flakes are first introduced to what is called half-miscella. This is Hexane with less than 15 to 18% oil content. As the half-miscella is recirculated, it of course gets a larger percentage of oil. It then becomes full-miscella after reaching 15 to 18% oil content.

The full-miscella is pumped to the evaporator, where at least 90 to 95% of the Hexane is evaporated off, and the oil with the small percentage of Hexane goes to the vacuum stripper, which can be a packed tower (with porcelain rachig rings) or the disc and donut type. These strip the final

Soybean Dust Problems Solved by Sturtevant Air Separator



RIGHT: Spencer Kellogg & Sons employee making classification adjustment on Sturtevant Air Separator in operation at Bellevue, Ohio, soybean meal plant. Separator minimizes air-borne dust losses while removing hulls and classifying end product.

LEFT: Two lead-off chutes at bottom of Sturtevant Air Separator in Spencer Kellogg & Sons plant. One chute in the closed circuit system sends to packaging all uniform size, dust-free meal while the other returns all undersize fines for pelletizing.

Closed Circuit Air Separation Cuts Losses, Keeps Plant Cleaner, Improves End Product

Dust — finer than 80 mesh — was accounting for 4 to 5 percent of the soybean meal production at the Spencer Kellogg & Sons plant in Bellevue, Ohio. Much of this dust was disseminated into the air during processing, becoming a total loss. And such free dust made working conditions unpleasant, plant and storage sheds untidy in appearance. Also, the proportion of dust retained in the end product was an annoyance to farmers and ranchers.

All of these problems have been solved by a Sturtevant Air Separator operating in closed circuit with a pelletizing machine. The processed soybean meal goes through the Air Separator at the rate of about 85 tph. Particles representing dust and hulls go out the fines chute to the pelletizer. The pellets are then ground and re-circulated through the Air Separator at rates to 10 tph, bringing the machine's total capacity to 95 tph.

The net result is that Spencer Kellogg & Sons now has cut dust loss to a minimum, no longer has any air-borne dust problems, and is producing a better standardized, dust-free end product. Sturtevant, the pioneer in centrifugal air separation, has once again helped to solve a precision classification problem — *and without an expensive, multi-unit installation.* Write today for more information. Address: Sturtevant Mill Co., 144 Clayton St., Boston 22, Mass.

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traces of Hexane from the oil, which is then cooled and sent to storage, or to the shift work tank for the finished oil.

The temperature usually desired in the evaporation is 210° to 230° F. This, of course, is the oil temperature after the most of the Hexane is evaporated off.

The temperature desired in the vacuum stripper is 220° to 240° F. under 22 inches to 26 inches of vacuum. The vacuum, of course, increases the heat, with less effect on the oil quality, such as color and refining loss.

In each operation of evaporation and stripping, the Hexane vapors are condensed and the liquid Hexane goes back to the work tank for reuse.

The last step in the extractor is to wash thoroughly the extracted flakes with clear oil-free Hexane; this, of course, is to get all the oil possible. The Hexane is introduced at about 135° to 138° F., and the extractor stays at about 135° F. at all times while in operation.

The oil-free spent flakes then go to the desolventizer toaster, which is very much like the hydraulic cooler, with certain modifications necessary for the venting of the vapors to the condenser.

Sparge steam is introduced in the top ring and thus increases the temperature quickly and causes the Hexane vapors to be given off, and they go to the condenser and on to the work tank after being condensed.

The flakes are toasted for color and urease control, both essential to the consumer. The urease is more or less controlled by good toasting.

The flakes after toasting and cooling go to storage or to the grinding depending upon the mill setup. Either is good, but some prefer one way or the other.

Hammermills are usually best. However, there are points for debate or question. One of them is fines in the meal produced by each. The hammermill can be controlled very well by proper perforated screens, which is determined by the quality of the meal particles desired. This is determined by many mixers by the screen test. They give you their limits which you must stay within if they are to use your meal.

In products control, the oil quality can be greatly affected by heat and time. The M & V which is moisture and volatile (water and Hexane) is controlled in the vacuum stripper. A dirty plugged stripper that needs cleaning will produce oil that has moisture because sparge steam is introduced in the bottom of the stripper.

If the heat transfer is not sufficient, then Hexane will be left in the oil, even though thermometers and gauges tend to show good operation.

Oil with Hexane cannot be safely processed in refineries. They will not buy if Hexane is found in the oil. A penalty is charged as refining loss on .30 M & V also.

Bulk meal loading is a headache to all who operate the extraction plants. Most use a belt-type loader, and the meal has a tendency to separate in the loading. The hull will move down or away from the meat or bean proper.

The probe method is a long way from being accurate. The only way to get a representative sample is to cut the *entire stream* on regular intervals mix and reduce the sample to laboratory or desired size. Some samplers of this type are now in operation, and have proven out.

It would relieve us considerably if we would all approach the managers, and they approach the rules committee, to get this method of sampling approved, even if a small fee was paid for an impartial inspector to check and approve the sampler. The companies would save many dollars and worries on claims.

The automatic samplers can be made for a nominal cost, and installed in any vertical or 45° fall, or, of course, any degree between 45° and 90° fall.

Soys Lead in N. Dak.

SOYBEANS—and not wheat or flax or any of the better known crops—have been bringing the best returns per acre to North Dakota farmers, according to Russell Asleson in the Minneapolis Tribune.

Soybeans have not been generally considered a Dakota crop, but they have been showing considerable expansion in both the Dakotas in recent years—35% this year in North Dakota. And in South Dakota this year the acreage is considerably above that of Nebraska.

For the past 5 years, soybeans have averaged $33.79 per harvested acre in North Dakota while hard spring wheat brought $25.49. Of course, rust cut seriously into wheat yields.

Values per acre ranged from a low of $31.75 an acre in 1952 to $36.12 in 1954. In those same 5 years, corn averaged $31.99 an acre, flax was $26.20, barley returned $22.73, rye brought $19.94 and oats $16.02.

Up until the last 2 or 3 years, soybean growing has been confined to southeastern North Dakota — the same area that goes for corn. But this year, the crop has spread all over the state. Clifford Olson, Grand Forks seed dealer, said he sold soybean seed to farmers as far north as the Canadian border.

Spencer Kellogg & Sons, Buffalo, N. Y., is reported to be planning a multi-million-dollar elevator and processing mill in the Red River Valley, the exact site to be selected. And Honeymead Products Co. is doubling its processing capacity at Mankato, Minn.

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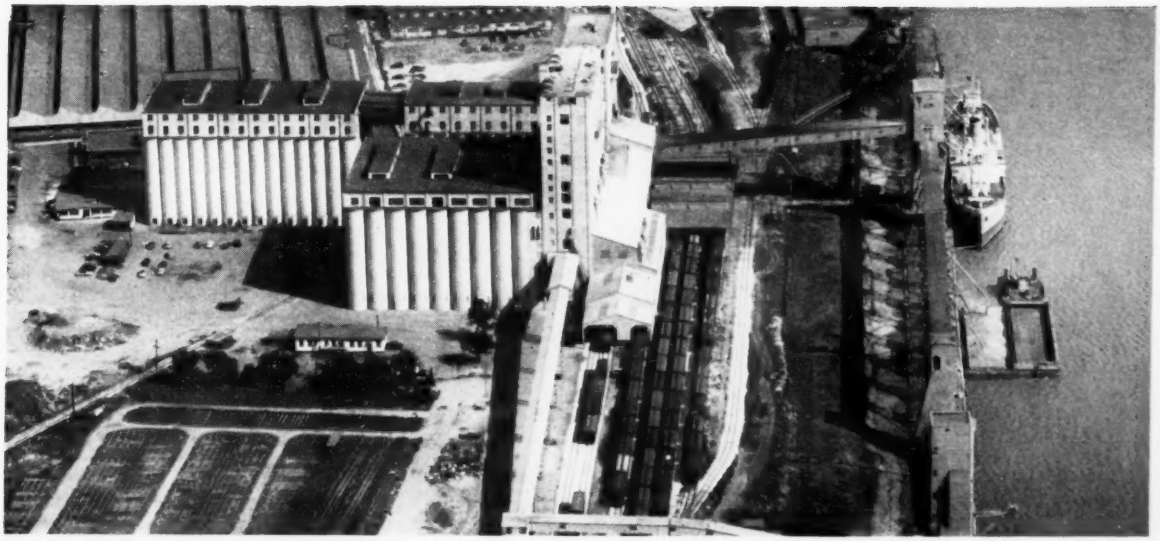

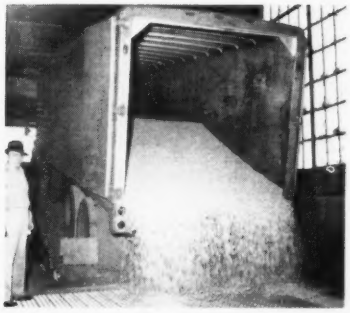

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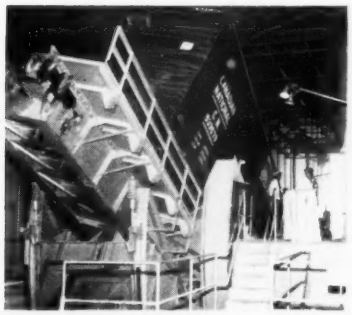

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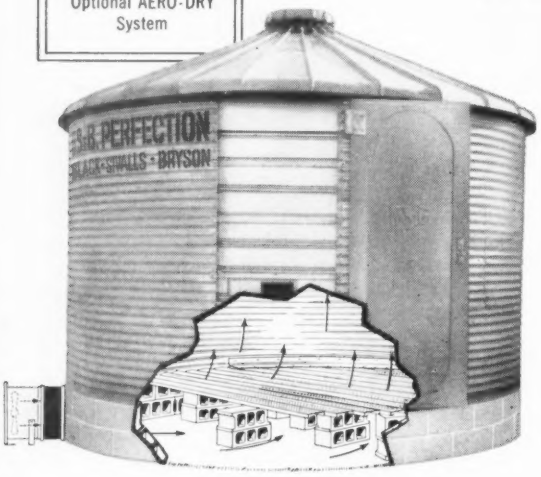

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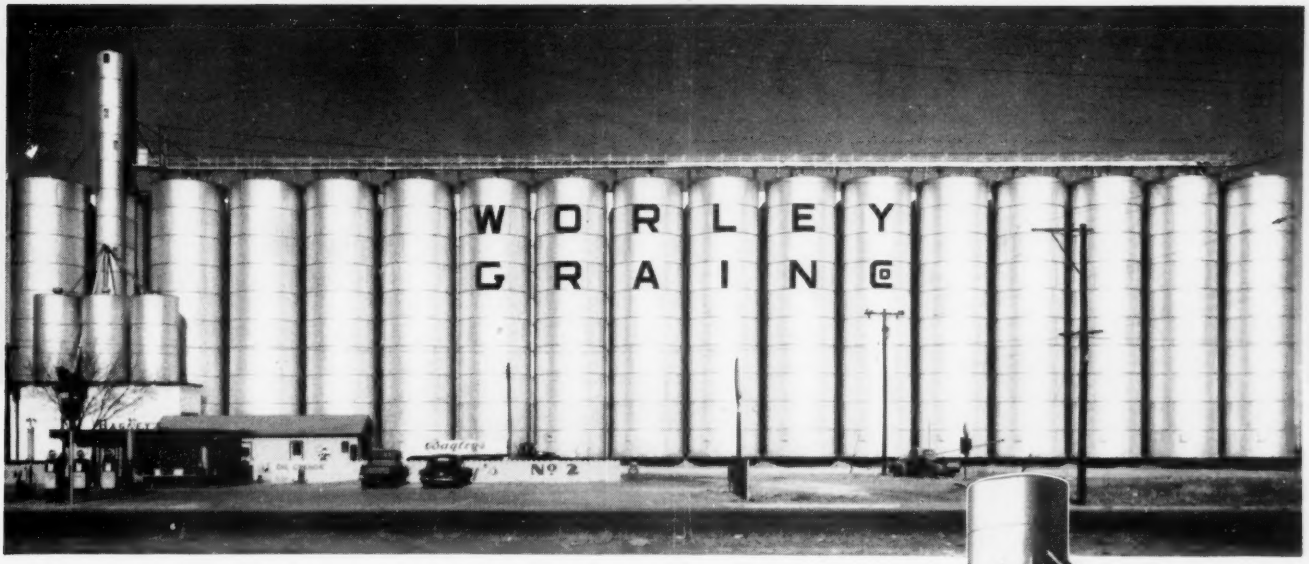

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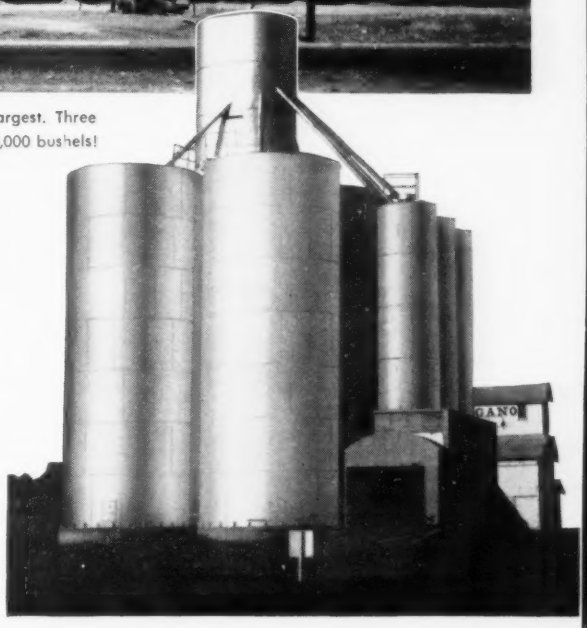

More nearly typical of today's country elevator type of installation is this group of BS&B Bolted Steel Grain Tanks which will handle up to 71,190 bushels.

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—Photo Ohio Farm and Home Research

ROOT ROT. The plant on the left is affected with soybean root rot, a disease seriously threatening Ohio's production.

Root Rots in Several States

PHYTOPHTHORA seedling blight and root rot is becoming more prevalent in the clay soils of the old lake bed region of northwestern Ohio, according to A. J. Suhovecky and A. F. Schmitthenner in Ohio Farm and Home Research.

This destructive disease was first reported by county agents in the region in 1951.

The damage produces seedling failures and stand losses occurring in patches ranging from a few feet to many acres in extent. Most cases of the disease have been found in Ottawa and Paulding Counties, but it also occurs in Allen, Auglaize, Erie, Putnam, Sandusky and Van Wert.

Phytophthora root rot of soybeans takes many forms. Seeds in infested fields may rot before germination resulting in failure of entire seedings or gaps of various sizes in the rows. Many seedings that have emerged become brown and shriveled.

The most characteristic symptom of this disease is the wilting and drying-up of older plants, even those which have already set pods. Other plants may be severely stunted, and if pulled up are found to have badly decayed roots. In such plants, decay extends inside the stem several inches above the soil line. Roots of healthy-appearing soybean plants in diseased areas are often decayed and internally discolored.

The characteristic patches of diseased plants occur generally in the poorly drained areas of the fields.

There are other seedling root rot diseases of soybeans in Ohio, but they do not affect older plants, and are damaged only under cool, wet conditions.

In the summer of 1954, a disease nursery was established on the farm of Anthony Schibilla at Oak Harbor, Ohio. Over 100 varieties and breeding lines were tested for resistance to this root rot. Only one variety—Monroe—recommended in Ohio was resistant. One other variety, Blackhawk, was also resistant.

All the recommended full-season beans such as Hawkeye, Lincoln and Harosoy were quite severely damaged.

Work at the Ohio station indicates that the varieties Illini, Monroe and Blackhawk are resistant to Phytophthora.

Root rots have also been found in Illinois, Indiana, Missouri and Iowa as well as Ohio, according to Donald W. Chamberlain, U. S. Regional Soybean Laboratory pathologist.

The disease in Illinois is not widespread, but was found in five or six fields in northern and central Illinois in 1955.

The diseases are caused by two different organisms, according to Chamberlain. "Phytophthora is the fungus causing the trouble in Ohio and Illinois, but in Missouri and Iowa the causal organism has been identified as a Fusarium," he says. (See the article by John M. Dunleavy on page 20 of the July Soybean Digest.)

"The only difference apparent in the two types of root rot appears to be thus: The Fusarium root rot affects young plants mostly and the rot is confined primarily to the cortex or bark or the root, while Phytophthora affects the inner tissues of the root as well as the bark and appears to infect plants at all ages."

Heads Ohio Work

OHIO is searching for improved strains of soybeans under the leadership of Dr. Paul E. Smith, in cooperation with Dr. A. F. Schmitthenner, plant pathologist.

The breeding nursery at the Ohio State University in Columbus and the Ohio Agricultural Experiment Station at Wooster plus several replicate test areas are supervised by Dr. Smith. One of the immediate goals is to find strains resistant to Phytophthora root rot.

Paul E. Smith

This disease struck hard on the flat, tight soils of Ohio where soybeans have been a principal money crop, Dr. Smith found on coming to Ohio from Arkansas where he held a similar position with the University the past 6 years.

He is a geneticist and plant breeder with degrees from Kansas State College, his native state, and Pennsylvania State University.

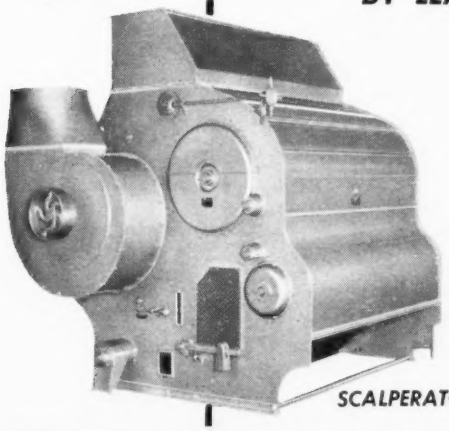
At Ohio State University, Dr. Smith will teach courses in advanced plant breeding in addition to research.

The Arkansas Seed Dealers' Association has elected Jake Hartz, Jr., Jacob Hartz Seed Co., Stuttgart, to represent the association on the State Plant Board for a 2-year term. He replaces Henry Kaufman, Ashdown.

APPROVED

BY LEADING HANDLERS AND PROCESSORS

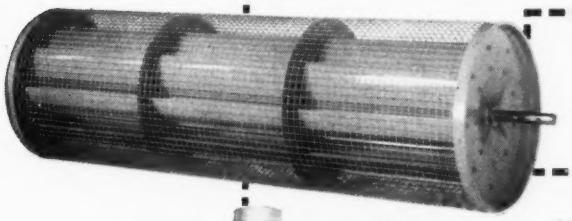
OF SOY BEANS



SCALPERATOR

FIRST SCALPING AND ASPIRATION

The Carter Scalperator does a good job of rough scalping *and* aspirating beans going directly to storage. It removes both coarse and light foreign materials. It also is a valuable machine to use on beans or grains when turned for cooling. Note that the Scalperator can be used on other grains without change of equipment. In capacity this is a "fast" machine. The Scalperator uses only rotary motion, thus does not vibrate.



The Basic Unit—Hart-Carter "Squirrel-Cage "Scalping Reel. Baffle plate construction retards flow of beans through the reel, insuring *thorough* rough scalping. The reel is self cleaning.

SECOND SCREENING AND ASPIRATION

The Carter Millerator, used before processing the beans, does a refined job of screening and aspirating. Its upper screen removes all material that is *larger in diameter* than the beans, and much of the material that is *longer*.

Its lower screen removes small seeds and sand. Controlled aspiration effectively removes light foreign materials. The Scalperator and Millerator are all-metal, require low power. Write for complete information . . . today.

MILLERATOR

HART-CARTER CO.

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EFFICIENT SCALPING AND ASPIRATION

Suggestions on Combining

YOU MAY be damaging your soybeans during combining, because you are trying to be careful and minimize losses.

Actually, it's total efficiency that counts. The experienced combine operator knows he may have to accept some small losses in harvesting soybeans to keep the total, overall loss as low as possible.

Dale Hull, extension agricultural engineer at Iowa State College, says mechanical damage is often overlooked because the beans aren't actually lost. But if you plan to use some of these beans for seed, injured seeds may not germinate at all, or they may sprout and produce stunted or deformed plants. Also, soybean exporters are demanding fewer cracked beans and removal of all weed seeds and other foreign matter.

Too many farmers pull their combines into the field without reducing cylinder speed, says Hull. This results in cracked as well as broken beans and damaged seed cells.

Also, too many farmers leave the close spacing on concaves and cylinder necessary for small grain threshing. Too often concaves are not removed as recommended in instruction manuals. This doesn't help a bit either, says Hull. The results give rise to the expression that the operator is "grinding" soybeans rather than combining them.

Hull indicates there are five common losses in soybean harvesting. They are shatter losses, cutter bar losses, cylinder losses, separating losses and poor cleaning.

Shatter losses are usually the most extensive and result mostly from combining at the wrong time. The soybeans should be in the best harvesting condition after the beans are dry enough for safe storage. Often the combining season is rather short. So plan ahead, Hull advises, and have all your equipment ready so you can get in the field when the time is right.

Many beans are missed or shattered when the cutter bar isn't properly adjusted. The reel also must be adjusted so the beans are thrown back on the canvas. Two main losses caused by the cylinder are unthreshed pods on the straw and cracked beans. When there are unthreshed beans in the straw it's usually due to the beans being too wet or improper adjustment.

Mature, dry soybeans are easily knocked from the pods, but because of non-uniformity of ripening or because of adverse weather conditions, some threshing action is needed. However, mature, dry soybeans tend to crack or split as a result of the action of the cylinder, and therefore the threshing action of the cylinder should not be too severe.

The speed of the cylinder should be reduced to approximately 50% of that for other grains. Cylinder speed on a modern combine is adjusted by a quick-change mechanism without much difficulty. On the older machines it is necessary to reverse the pulleys to reduce cylinder speed to about one-half that used for small grains.

Never reduce the speed of the cylinder by throttling down the tractor engine, for this reduces the speed of the entire combine. Speed of the separating mechanism should be maintained so that the beans will be clean when they come from the combine, says Hull.

After the cylinder speed has been reduced, the concaves should be adjusted to produce the desired threshing action. In dry, mature beans it may be necessary to remove concaves entirely and insert blanks. Some manufacturers provide special concave equipment for threshing soybeans.

A high amount of split beans may result if the quantity of tailings returned to the cylinder is large. The amount of tailings should be kept small by proper adjustment of the screen, sieve, air blast and tailings fingers.

For most satisfactory results the final adjustments should be made in the field.

Hull recommends a ScourKleen attachment if you are combining beans for seed. It removes a lot of the weed seed in the field.

"Forecasting Soybean Prices"

Forecasting price trends of soybeans, oil and meal is facilitated with the assistance of an original, new study, entitled "Forecasting Soybean Prices," which is the feature of the new 1956 COMMODITY YEAR BOOK.

It tells you what to watch for in the news, evaluates seasonal price trends, and shows you how to ascertain the market influences of changes in cash and futures relationships, exports, seasonal developments, etc. The numerous charts, which illustrate this amazing study, are alone worth many times the price of the new Year Book (priced at only $12 a copy).

The wealth of information on soybeans, oil, meal, and related fats & oils and feeds (including charts and statistical tables) make this new 385-page volume a "must" for every firm concerned with the price movements of soybeans or its products.

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Cost of Production

PER ACRE cost of soybean production on a group of Iowa cost accounting farms with $300-an-acre land totaled as follows, as reported by Wallaces' Farmer and Iowa Homestead:

Interest at 4%	$12.00
Tax	3.50
Fertilizer, manure, etc.	1.65
Buildings	.90
Labor	6.35
Power & machinery	10.30
Seed	3.55
Management	2.45
Miscellaneous	3.05
	$43.75

Higher priced land would boost both interest and taxes. Or your land may require more fertilizer. And smaller fields can run up labor and machinery costs. This means higher yields to break even.

YIELD OF SOYBEANS NEEDED TO BREAK EVEN

Farm price of soybeans per bu.	Land value per acre $100	$200	$300	$400	$500
$3.00	12	13	15	17	19
2.75	12	14	16	18	20
2.50	13	15	17	19	21
2.25	14	16	18	21	23
2.00	15	17	20	23	25

Suez Shipments Up

NORTHBOUND soybean shipments through the Suez Canal totaled 2.6 million bushels in April, up about 18% from the same month in 1955. Total 1956 soybean shipments through April were almost 9.9 million bushels as compared with 8.7 million during the same 4-month period of 1955.

The total of all oilseed and oil-bearing material shipments, including soybeans, had increased considerably, reaching 1,048,000 short tons at the end of April as compared with 788,000 tons through the end of April last year. The major increase, beside that in soybeans, came in increased shipments of peanuts and copra.

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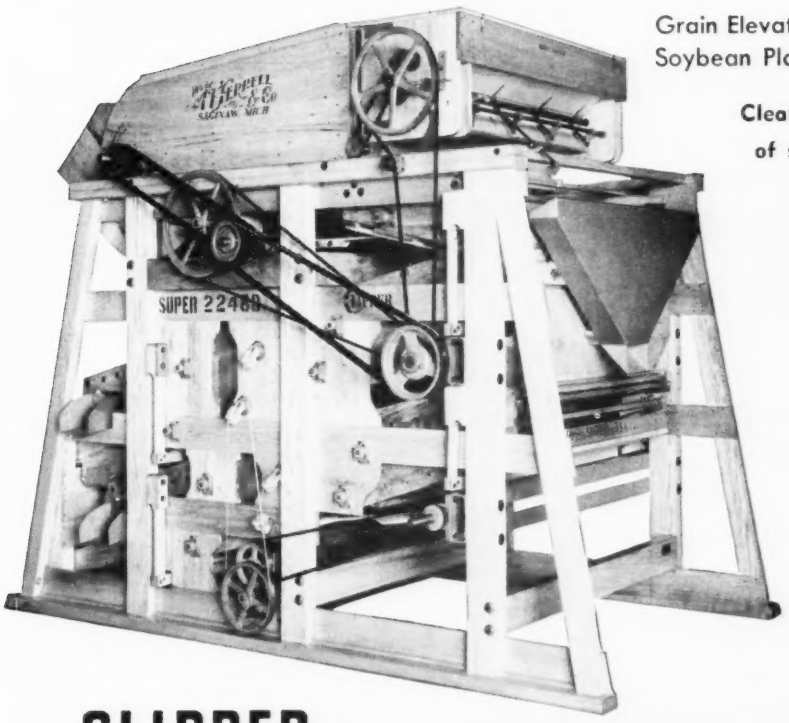

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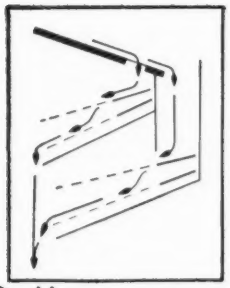

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CROP REPORT

New Record U. S. Soybean Acreage

U. S. DEPARTMENT of Agriculture on July 1 estimated the overall U. S. soybean acreage at 21.9 million, a new record for the 7th consecutive year. A total of 20.9 million acres is to be harvested for beans, 2.3 million more than were harvested in 1955 and an increase of one-eighth.

Largest increases come in Iowa, Minnesota and Illinois, with substantial increases also coming in Ohio, Indiana, Missouri, Arkansas and Mississippi.

As of Aug. 1 prospects were generally very good. Moisture supplies were currently adequate to plentiful most places, exceptions being parts of Iowa, Arkansas, Alabama, Kansas, South Carolina and the Dakotas.

Some northern areas were cool and wet in late July and there was local hail damage. Sudden violent storms did close to a half-million-dollars worth of damage to crops in the Midsouth July 19, with most severe damage centering around Tiptonville, Tenn.

Spot reports from Soybean Digest crop reporters:

Alabama. E. E. Purvis, Baldwin Oil Mills, Foley (7-23): Dry weather delayed early planting but with rain since mid-July crop has grown above normal. I believe yield will be above normal. Bulk of crop movement will be mid-October, later than 1955.

Arkansas. L. M. Humphrey, R. L. Dortch Seed Farms, Scott (7-22): So far conditions have been most favorable. Beans look wonderful and if August and September are not too hot and dry we should have a very good crop, possibly as much as 50% ahead of last year. Some fields infested with Johnsongrass and pigweed. New crop movement will begin Oct. 1, about the same as 1955.

Paul C. Hughes, Farmers Soybean Corp., Blytheville (7-20): We have a very good looking bean crop just now beginning to bloom and set pods. We are in need of a general rain for top yields in Dormans and other early crop beans. More weed chopping than usual. A few Perrys will move very early and then no more crop movement until after Sept. 15.

Illinois. Walter W. McLaughlin, Citizens National Bank, Decatur (7-20): Crop condition excellent except for mildew in spots, and some going down due to being too tall. Could use more sunshine. Yield outlook as good or better than 1955. Many fields still have volunteer corn. Crop well advanced.

L. E. Kennedy, Kennedy's Grain Elevator, Inc., Newton (7-20): Crop condition excellent. Weather cool and wet. Yield outlook normal providing weather clears up. New crop movement 10 days later than 1955.

W. V. Simmons, Quincy Soybean Products Co., Quincy (7-21): Maturity 7-10 days earlier than normal. Condition excellent. Sufficient moisture to assure above normal yield. Crop very clean with exception of volunteer corn. Some grasshoppers. New crop movement will begin about Sept. 12, earlier than 1955 barring rains at harvest time.

Indiana. J. B. Edmondson, Danville (7-21): Soybean prospects more varied than for several years, ranging from excellent to poor. Barring wet weather spots, condition is 90-95% of normal. Too much rain in too big doses. Good growing weather between floods. If expected dry spell doesn't develop in August, yield will be above 1955 by 6%. Serious weed and volunteer corn trouble bound to develop later. Looks now as if harvest would start about Sept. 20, same time as 1955 crop.

Iowa. Howard L. Roach, Plainfield (7-20): Maturity 105% of normal. Condition excellent. Weather and moisture conditions good. Yield outlook 120% of 1955. Crop movement will begin about Sept. 15, about same time as 1955.

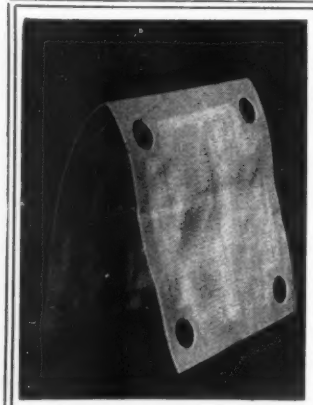
Kansas. B. E. Henline, Soy-Rich Products, Inc., Wichita (7-21): Most beans planted around June 1. Early beans in bloom. Crop condition good. Temperatures in 90s. Need rain in next 10 days. Yield outlook 120% of normal and 400% of 1955 yield. Fields cleanest we have had in our area. Grasshoppers only trouble at present. New crop movement will begin Sept. 21, later than 1955 by 10 days.

Louisiana. Mark H. Brown, New Providence (7-20): Early beans good. Late beans planted after oats will need rain. Yield outlook about same as 1955. Crop movement will begin about Sept. 15, earlier than 1955 by 10 days to 2 weeks.

Minnesota. Henry Leitschuh, Sleepy Eye: We had a drouth that hurt small grain early in spring but plenty of moisture for corn and soybeans. Yield outlook normal and should be same as last year. Hail hurt some spotted sections. About 40-50% of fields planted on corn ground have a lot of volunteer corn in them.

John W. Evans, Montevideo (7-20): Maturity 100%. Crop condition good. In blossom and forming pods. Yield outlook good. Cool weather may prevent a real early harvest. Many fields with weeds and also much corn infestation.

Missouri. Carver Brown, Laddonia (7-23): Maturity 5 days late. Crop condition good. Too much moisture. 10% of beans have not been cultivated. Yield outlook 5%



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above normal, 25% above 1955. Most beans fairly clean but a few are weedy. Some grasshoppers but wet weather has kept down damage up to now.

North Carolina. Paul Keller, Central Oil & Milling Co. (7-21): Maturity 99%. Condition good. Moisture ample. Yield outlook 99%.

North Dakota. Floyd Poyzer, Amenia Seed & Grain Co., Amenia (7-23): Maturity average. Crop condition fine. Weather dry. Yield outlook good. New disease showing in some fields. Movement may begin later than last year.

Ohio. Lewis C. Saboe, Columbus (7-20): Maturity week later than normal. Crop condition very poor to excellent. Average a little below normal. Too cold. Yield outlook not as good as 1955. More weeds than usual.

Oklahoma. Ralph S. Matlock, Oklahoma A & M College, Stillwater (7-20): Maturity about normal. Condition good in northeast, fair in south central. Weather and moisture conditions fair except in local areas. Yield outlook from 10 to 30% better than last year. Some blight and pustule on susceptible varieties where rainfall has been abundant. New crop movement will begin Sept. 20, a few days earlier than 1955.

South Dakota. H. G. Miller & Son, Garden City (7-21): Maturity somewhat ahead of 1955. Crop condition very good. All soybeans planted by June 1 in blooming stage. Plenty of rain in this section. Other areas nearby very dry. Yield about 10% above 1955.

Tennessee. Tyler Terrett, West Tennessee Soya Mill, Inc., Tiptonville (7-20): Crop conditions good. Weather and moisture conditions good. Yield above 1955. Crop looks fairly clean.

Virginia. Louis Groh, Clay Bank (7-20): Maturity about normal. Crop condition and weather and moisture conditions excellent. Yield outlook about the same as 1955.

Ontario. Gilles DePutter, Appin (7-21): Maturity perhaps 10 days-2 weeks later than normal. Temperatures below normal. Rainfall excessive for July. Water in many fields. Many beans turning yellow. Yield appears to be below normal and much below 1955.

SOYBEAN CROP PRODUCTION, JULY 1956 (1,000 acres)

State	Acreage grown alone for all purposes			Equivalent solid [1]			Acreage for beans		
	Average 1945-54	1955	1956	Average 1945-54	1955	1956	Harvested Average 1945-54	1955	For harvest 1956
N. Y.	9	7	6	9	7	6	6	5	5
N. J.	36	43	47	36	43	47	20	36	40
Pa.	52	55	58	52	55	58	24	22	23
Ohio	1,049	1,217	1,327	1,049	1,217	1,327	1,000	1,193	1,301
Ind.	1,724	2,102	2,228	1,724	2,102	2,228	1,603	2,039	2,172
Ill.	3,840	4,432	4,831	3,840	4,432	4,831	3,678	4,370	4,759
Mich.	113	145	188	113	145	188	100	138	180
Wis.	68	90	96	68	90	96	39	78	84
Minn.	1,084	2,286	2,697	1,084	2,286	2,697	1,038	2,253	2,656
Iowa	1,747	2,256	2,662	1,747	2,256	2,662	1,707	2,235	2,641
Mo.	1,278	1,987	2,086	1,300	1,992	2,091	1,192	1,940	2,050
N. Dak.	23	82	135	23	82	135	22	80	133
S. Dak.	64	249	239	64	249	239	62	243	231
Nebr.	62	196	190	62	196	190	60	180	185
Kans.	383	374	389	383	374	389	331	335	348
Del.	69	110	141	69	110	141	60	105	135
Md.	96	175	226	96	175	226	73	155	211
Va.	192	238	276	224	259	297	136	201	237
W. Va.	16	8	8	16	8	8			
N. C.	386	430	516	476	468	552	263	327	396
S. C.	100	222	275	141	260	312	69	189	236
Ga.	74	90	90	99	117	117	24	57	65
Fla.	[2] 16	40	48	[2] 16	40	48	[2] 13	36	43
Ky.	197	204	198	207	207	200	111	134	130
Tenn.	268	335	345	339	363	372	156	250	270
Ala.	161	148	148	166	148	148	64	94	95
Miss.	409	717	825	458	732	838	266	626	751
Ark.	601	1,277	1,456	667	1,310	1,488	516	1,217	1,414
La.	106	137	164	248	227	256	39	88	119
Okla.	56	53	49	56	53	49	32	40	34
Texas	6	5	15	6	5	15	[3]	2	9
U. S.	14,279	19,710	21,959	14,833	20,008	22,251	12,698	18,668	20,953

[1] Acres grown alone, plus one-half the interplanted acres. [2] Short-time average. [3] Less than 500 acres. The U. S. D. A. Crop Reporting Board.

Interplanted acreage (1,000 acres)

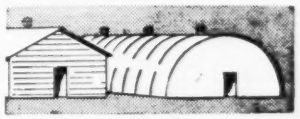
State	Average 1945-54	1955	1956	State	Average 1945-54	1955	1956
Mo.	45	10	10	Tenn.	143	57	54
Va.	64	42	42	Ala.	10		
N. C.	181	76	72	Miss.	98	30	26
S. C.	81	77	74	Ark.	132	66	64
Ga.	51	54	54	La.	282	180	184
Ky.	20	6	4	U. S.	1,108	598	584

U. S. Department of Agriculture crop reporting board.

Soybeans for Beans (1,000 bu.)

State	Production 1955 [1]	State	Production 1955 [1]	State	Production 1955 [1]
N. Y.	80	Mo.	33,950	Ga.	684
N. J.	684	N. Dak.	1,200	Fla.	792
Pa.	440	S. Dak.	2,794	Ky.	2,412
Ohio	29,228	Nebr.	1,890	Tenn.	4,500
Ind.	43,838	Kans.	3,350	Ala.	2,162
Ill.	98,325	Del.	2,100	Miss.	11,894
Mich.	3,036	Md.	3,100	Ark	21,906
Wis.	975	Va.	4,020	La.	1,936
Minn.	43,934	N. C.	5,068	Okla.	460
Iowa	43,582	S. C.	2,740	Texas	26
				U. S.	371,106

[1] Revised—based on analysis of 1954 Census and other data.



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GRITS and FLAKES . . . *from the World of Soy*

Staley Names Bralley

Dr. James A. Bralley has been named director of research for **A. E. Staley Manufacturing Co.**, Decatur, Ill. His appointment is described as "another step in a continuing expansion of the Staley research program which started early this year."

Dr. James A. Bralley

Dr. Bralley has been with Rohm & Haas Co. for the last 10 years, and before that he was a research chemist with the B. F. Goodrich Co. He received his doctorate at the University of Virginia in 1941.

Pellet Mill Changes

A realignment of territories along the Eastern Shore has been announced by C. N. Hultberg, vice president in charge of sales of the **California Pellet Mill Co.** The change consolidates New York and New England under John Speirs whose office is at 274 State St., Albany, N. Y.

In Pennsylvania, New Jersey and Delaware the company is now represented by Robert G. Proctor. He will maintain an office in Harrisburg, Pa., at 612 Cedar St.

Moving into Richmond, Va., is Rodney L. Bell, Jr., who will be responsible for the company's activities in Maryland, Virginia and North Carolina. The office is located at 110 North 8th St.

Mr. Hultberg said the moves are being made due to the "constant increase in customers along the East Coast coupled with the tremendous potential for our products in that area."

To Central Soya Board

B. A. Townsend

Robert B. Parrott

The board of directors of **Central Soya Co., Inc.**, has elected B. A. Townsend, Decatur, Ind., and Robert B. Parrott, Minneapolis, Minn., as officers of the company.

"Bud" Townsend will become vice president and will continue his responsibility for the sales of soybean oil and soybean oil meal.

Effective Aug. 1, Mr. Parrott, formerly manager of the special products division of Cargill, Inc., joined Central Soya as vice president and will direct the activities and be responsible for soybean purchasing and grain merchandising.

Mr. Townsend has been associated with Central Soya in the commodity division since 1937 and has been carrying out administrative duties in every phase of soybean purchasing, meal sales and soybean oil sales for the company.

Mr. Parrott has been associated with Cargill since 1935 and has had wide experience in all phases of the grain business.

Research Director

Dr. Donald F. Starr, well-known agricultural consulting chemist, has been appointed director of research of the **V. D. Anderson Co.**, Cleveland, Ohio, division of International Basic Economy Corp.

Dr. Donald F. Starr

In his new position, Dr. Starr will direct research and development activities in the field and at the laboratories of the company, which specializes in the manufacture of equipment for processing vegetable oilseeds and other products.

Prior to joining Anderson this year, Dr. Starr was a consulting chemist specializing in agricultural chemicals. He was formerly a senior chemist for the U. S. Department of Agriculture.

Delta Co. Changes

Ralph W. Woodruff has been made manager of the **Delta Products Co.**, Wilson, Ark. The mill is a solvent extraction plant and for the past 5 years has been under lease to the Buckeye Cellulose Corp., which did not renew its lease.

The mill will go back to the original name of the Delta Products Co., and resume operations as a cooperative. The company also expects to operate its oil refinery plant again.

Mr. Woodruff has been manager of Osceola Products Co., Osceola, Ark., for the past 10 years.

President of the Delta Products Co. is R. E. L. Wilson, III. J. E. Crain is vice president and H. F. Ohlendorft is secretary.

Marshall Woodward, who was formerly with the mill, has been made general superintendent, and Paul Bussey, assistant superintendent

Food Firm Expands

Edward M. Muldoon, general manager of **La Choy Food Products**, Archbold, Ohio, announced La Choy's 1956 expansion plans which will expand present production fa-

developers of the Rotocel, installed capacity exceeds 4,000,000 tons per year

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cilities more than 50%. Present plans call for still another addition to the plant in 1957.

Ground has been broken for the expansion of the east wing of the plant. La Choy's present plant covers 5½ acres. The latest expansion will include a new rail siding capable of handling six rail cars.

Muldoon states that La Choy has outgrown present plant facilities despite adding a new shipping dock last year and the expenditure of over $100,000 in 1955 for a new Food Machinery Co. AB Cooker and other additional equipment. Mr. Muldoon reported the outlook is for still further growth during the coming year due to ever increasing interest in Chinese foods and the La Choy brand.

Europe: Multi-Million Dollar Market

(Continued from Page 18)

ican soybeans in varying amounts. In this area we must compete for markets with Manchurian soybeans, with copra, peanuts, palm kernels, cottonseed and other oil-bearing materials. There is market for protein meals in the livestock economies, and there is an increasing awareness of the value of soybean oil meal as compared with the others. As livestock nutritional knowledge increases, as the mixed feed industry grows, and as the economies continue to improve so that the consumption of animal products increases per capita, there will be an increasing market for soybeans in this area.

The population increase in this area of the world is also an important factor. Demands for protein and fats increase with the population, and in this area of the world there is little or no likelihood of increased oilseed production within the countries concerned. Soybeans will not, in my estimation, ever become an important crop because the combination of latitude, temperature, moisture, rainfall distribution and wet harvest season will not permit. Supplies will have to be brought in from other areas.

Our major problem in this area is still of quality. Every buyer readily acknowledges that the change in the Federal Grade Standards on Sept. 1, 1955, brought considerable improvement. There is some dissatisfaction with green seed-coated beans, and with purple stain and purple mottling. Major objection, however, is foreign material content. The study team which recently surveyed three cargoes as loaded in this country, then sampled, graded and observed the same three cargoes on arrival, has helped materially in solving our problems. But we are still faced with the job of demonstrating to European soybean buyers that they are actually getting what they buy under our grades.

* * *

One of the major factors in the entire foreign material picture is our classification of broken particles of soybeans as foreign material. Each time a cargo of beans is handled more breakage occurs, and thus more foreign material is created. Foreign buyers must use our standards when they buy our beans, hence they also use them on arrival. No other country in the world classifies broken particles of beans as foreign material. We are alone in that respect, and we create unnecessary problems for ourselves in this classification. I am convinced we must change our grading standards to classify these broken particles of soybeans as split or broken beans, not as foreign material.

There is an increasing market for soybean oil, and for soybeans, in the countries of Europe. We must place our commodity, in the case of beans, in the condition in which buyers want it. We must conduct a sales program on both oil and beans, dependent upon the country concerned. We must assist countries such as Spain in learning to handle and utilize soybean oil effectively. We must do the followup work, the service work, the promotion and the sales work which a multi-million-dollar market merits.

* * *

America is still the great breadbasket of the world. The crops once needed in world trade are being replaced by others. Soybeans are on the increase. Oils and proteins are still most scarce in the world food economies. The challenge is ours—I believe we can meet it.

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• more pods per plant
• more bushels per acre
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PUBLICATIONS

Oilseed Storage Plentiful in U. S.

OIL STORAGE. Storage facilities for fats and oils and for oilseeds and their products in the United States are adequate to take care of these products even in the years of heavy production, according to a report issued by the U. S. Department of Agriculture.

The report is based on a study of 3,100 replies from producers, industrial users, and warehousemen of those commodities. The purpose was to collect information useful to the industry in maintaining orderly and efficient marketing, in minimizing deterioration, and in protecting the competitive position of oilseeds and fats and oils. Domestic oilseeds worth more than 1.3 billion dollars are crushed for oil and meal each year in nearly 600 mills throughout the country.

The tank storage capacity for fats and oils in 1951 was estimated at 6.2 billion pounds, and U. S. total annual production of fats and oils (excluding butter) was about 12 billion pounds. At no time did stocks on hand require all the tank capacity available. Mill storage capacities for oilseeds and their products were adequate and generally well distributed among the various oilseeds. Neither adequacy nor character of the storage facilities is believed to have changed significantly since the survey was made.

Cottonseed is usually stored at the oil mills, researchers report. Only about a fourth of the soybeans are stored at the mills, another fourth at farms, and the remainder at country and terminal elevators and with dealers at transportation centers. Flaxseed is stored at mills or in commercial storage facilities.

A copy of Marketing Research Report No. 122, "Tank Storage of Fats and Oils and Mill Storage of Oilseeds and Their Products," is available from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

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AUSTRALIA. There are areas in Australia where conditions might be favorable for soybean production, with the zone offering the best prospects a coastal and subcoastal strip from Newcastle in New South Wales to Gayndah in southern Queensland. Here rainfall and temperatures are favorable.

Over 300 introductions from 18 different countries including the United States were tested in several parts of Australia in 1944-51.

The main problem is to search out and develop varieties adapted to the different localities. A wide range of types was tested, from early maturing varieties that grew only a few inches high to a late maturing vine type from Java and South Rhodesia with a stem length of over 6 feet.

As was to be expected, the most successful varieties at each station had been obtained from regions of similar latitude overseas. Those that performed best at Katherine came from South Rhodesia and Hawaii; at Redlands Bay from U. S. Gulf States; and at Redcliffs from the northern Cottonbelt and the southern Cornbelt of the U. S.

There is need for more detailed investigations with this crop in Australia. Varietal testing, with or without irrigation, should be continued and extended in areas where results to date have been encouraging.

SOYBEANS IN AUSTRALIA. By S. G. Gray, Technical Paper No. 4. Division of Plant Industry, Commonwealth Scientific and Industrial Research Organization, Melbourne, Australia.

THE EFFECT OF SPACING WITHIN AND BETWEEN ROWS ON THE COMPONENTS OF YIELD AND OTHER CHARACTERS IN SOYBEANS. By W. F. Lehman and J. W. Lambert, University of Minnesota. Agronomy Abstracts. 47:65-66. 1955.

STORED GRAIN PESTS. Farmers' Bulletin No. 1260. Price 25¢. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

COMMODITY FUTURES STATISTICS, JULY 1954-JUNE 1955. Statistical Bulletin No. 171. Commodity Exchange Authority, U. S. Department of Agriculture, Washington 25, D. C.

NEW ALKYD MATERIALS. Paint, Oil and Chemical Review, Feb. 9, 1956. 332 W. Harrison St., Oak Park, Ill. Covers soybean oil and soybean fatty acid products.

ABSTRACTS OF FATS AND OILS LITERATURE. Vol. I. Nos. 3 and 4. August-December 1955. National Association of Margarine Manufacturers, Munsey Building. Washington. D. C.

FEEDING

PROTEIN. A study to appraise the protein content of rations fed to swine was conducted on individual Illinois farms in 1951 in relation to recommendations of the Illinois plan for swine feeding. Differences in the adequacy of the protein fed swine were determined in five different areas in the state.

Findings included:

Nearly all farms fed a protein supplement at least part of the time, and about seven out of every eight farms used some commercially mixed protein supplement.

Soybean oil meal, alfalfa meal, meat scraps or tankage, and skim milk were the supplements fed in every area. The percentage of farms using a given ingredient varied considerably from area to area, reflecting differences in the availability and price of that ingredient.

About half the farms fed rations that met the recommended levels for protein. About one-fourth fed rations containing the recommended level of protein in every phase of production.

ADEQUACY OF PROTEIN IN SWINE RATIONS IN ILLINOIS. By R. J. Mutti. Bulletin 599. University of Illinois Agricultural Experiment Station, Urbana, Ill.

THE INFLUENCE OF TRYPTOPHAN, METHIONINE AND LYSINE SUPPLEMENTATION OF A CORN-SOYBEAN OIL MEAL DIET ON NITROGEN BALANCE OF GROWING SWINE. By R. J. Meade, Nebraska Agricultural Experiment Station. Journal of Animal Science, February 1956, Vol. 15, No. 1, pages 288-296.

FATS. Chicks given access to feed with and without added inedible animal fats ate about twice as much of the feed with the added fat in Wisconsin experiments.

Most of the animal fats tested improved feed utilization but did not improve the growth rate at the 5% level.

THE EFFECT OF FATS AND FATTY ACIDS IN CHICK RATIONS. By M. L. Sunde, University of Wisconsin. Poultry Science, Vol. 35, No. 2, March 1956, pages 362-368.

GETTING YOUR FEED IN BULK. By Lacey F. Rickey. Information 1, Farmer Cooperative Service, U. S. Department of Agriculture, Washington 25, D. C.

For a complete list of books and experiment station publications relating to soybeans drop a postcard to Circulation Department, Soybean Digest, Hudson, Iowa.

Builds Extraction, Refining Systems

HONEYMEAD Products Co., Mankato, Minn., has awarded a contract to Blaw-Knox Co., chemical plants division, Chicago, for the design and erection of a vegetable oil extraction system which will be the largest of its type in the world.

Heart of the new facility will be a giant 31-foot diameter Rotocel solvent extractor with a capacity of 1,200 tons per day of soybeans. It will replace a 500-ton-per-day unit built in 1953 for Honeymead by Blaw-Knox which at the time of installation was the world's largest.

The trend of the industry toward higher volume operations has required a continual increase in equipment size since the first Rotocel extractor of 75 tons capacity was developed and installed in 1948. Blaw-Knox has now built solvent extraction facilities with a total capacity of over 4 million tons per year. In addition to the new 1,200-ton Honeymead plant, which will be the largest soybean extractor, Blaw-Knox installations include the largest flax extractor, the largest sesame extractor and the largest safflower extractor in the world.

The Rotocel is a continuous extractor for granular solids which has had wide acceptance throughout the oilseed industry for the solvent extraction of vegetable oils from seeds.

Construction work is under way at Mankato on the new plant and completion is scheduled for late this summer.

Honeymead has also awarded a contract to Blaw-Knox for the design and erection of what is believed to be the world's largest vegetable oil deodorizing system. The new unit will be capable of producing 10 tank cars of 600,000 pounds of deodorizing soybean oil per day.

Supplying oil for this plant will require the processing of 3 million pounds per day or 18 million bushels of soybeans per year, approximately 8% of the nation's processing capacity.

The huge new facility will be completely continuous and automatically controlled, thereby permitting substantial savings over conventional batch or semi-continuous operations. Each minute of the day the average oil production from 1¾ acres of soybeans will be de-aerated, heated, deodorized and cooled in a single vessel under high vacuum and finally clarified prior to shipment. Thus, handling of hot material is eliminated and product deterioration by possible air leakage is prevented.

The Blaw-Knox system was selected by Honeymead after an exhaustive study of various types of deodorizers. The process is also suitable for improving the quality of hydrogenated shortening, margarine and lard as well as other fats and oil products.

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"Following YOUR market advices—tops in my opinion—have taken $5,000 profit in SOYBEANS in past 3 WEEKS." LA.

"Sure did WONDERFUL with that $5 subscription—OVER $3,000 PROFIT so far, and if I had gone along on first couple of letters, would have done much better." OHIO.

"Am another satisfied customer. Made enough on JULY beans, FIRST WEEK I took service, to pay for service REST OF MY LIFE, and I figure on living a LONG time yet." IOWA.

"In 28 years in grain business, YOUR commodity-stock service was FAR THE BEST used during that period." NEBR.

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NEW PRODUCTS and SERVICES

PLUG VALVES. Lubricated plug valves guard against possible explosion in the Chicago plant of the Southern Cotton Oil Co., where three men per shift manufacture 360,000 pounds of shortening daily.

The plant refines, bleaches and hydrogenates oil from Midwest soybeans to produce a number of commercial shortenings. Leakage of hydrogen has been averted by installation of Rockwell-Nordstrom lubricated plug valves in 1½-inch lines between the hydrogen main and the process tanks. Similar leakproof valves, shown being operated at left, vent hydrogenation tanks after completion of a batch.

For further information write Soybean Digest 8a, Hudson, Iowa.

IRRIGATION ENGINE. The J. I. Case Co., long-time manufacturer of farm implements, has announced its entry into the irrigation engine field.

The company is offering 12 different engine models, ranging in horsepower up to 90. Operation will be possible with gasoline, diesel fuel, liquid petroleum or natural gas.

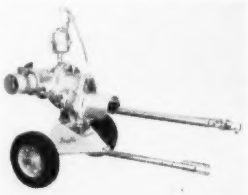
"The engines were developed around the basic design of the company's new line of tractor engines," according to John T. Brown, chairman of the board and president. "The Case tractor engine is especially well suited to operate a pump because of its heavy duty features, its low operation cost and easy upkeep."

For further information write Soybean Digest 8c, Hudson, Iowa.

PROCESSING EQUIPMENT. Four-page bulletin No. 56 of Bauer Bros. Co. illustrates four classes of processing equipment, including: attrition mills, hammermills, breakers, crushers, and magnetic separators for feed mills and other industries; and hullers, separators, cleaners, and beaters for the oil milling industry.

For a copy of the bulletin write Soybean Digest 8e, Hudson, Iowa.

IRRIGATION PUMPS. Two new PTO drive irrigation pumps are now available from Jayflo Products Co., which will deliver up to 500 GPM at 80 PSI at an input drive of 550 RPM at 35 HP. Both centrifugal pumps are trailer mounted for portability, but may be ordered without the trailer for economical, semi-permanent installation where the water source is at one location.

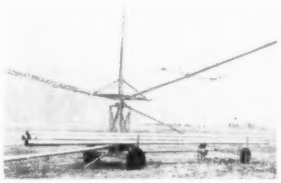


The 5-inch model 45-GA pictured is in the 25 to 40 horsepower range and delivers 500 gallons per minute. The 4-inch model 35-GA delivers 410 gallons per minute requiring only 26 horsepower.

For complete information write Soybean Digest 8f, Hudson, Iowa.

PORTABLE SPRINKLER. A revolutionary new system of irrigation . . . a slowly revolving giant sprinkler . . . is now being manufactured by the Vermeer Manufacturing Co.

The Vermeer Pow-R-Sprinkler consists of a huge 140-foot sprinkler boom which rotates on a four-wheel trailer mounted turntable. The jet-propelled sprinkler is rotated by water pressure only.



The sprinkler may be pulled into the field by a tractor from either end of the trailer. With one setting the sprinkler will cover at least 100 rows of corn with any desired amount of water up to 1 inch in an hour.

For further information write Soybean Digest 8b, Hudson, Iowa.

DRYING FAN. The Habco Manufacturing Co. announces an improved straight air, all purpose drying fan, which can be used for low-cost drying of crops, including hay and grain.

The fan, available in 36-inch or 42-inch diameters, has eight blades of welded steel construction. It offers high air capacity, high efficiency and low power requirements.

For further information write Soybean Digest 8d, Hudson, Iowa.

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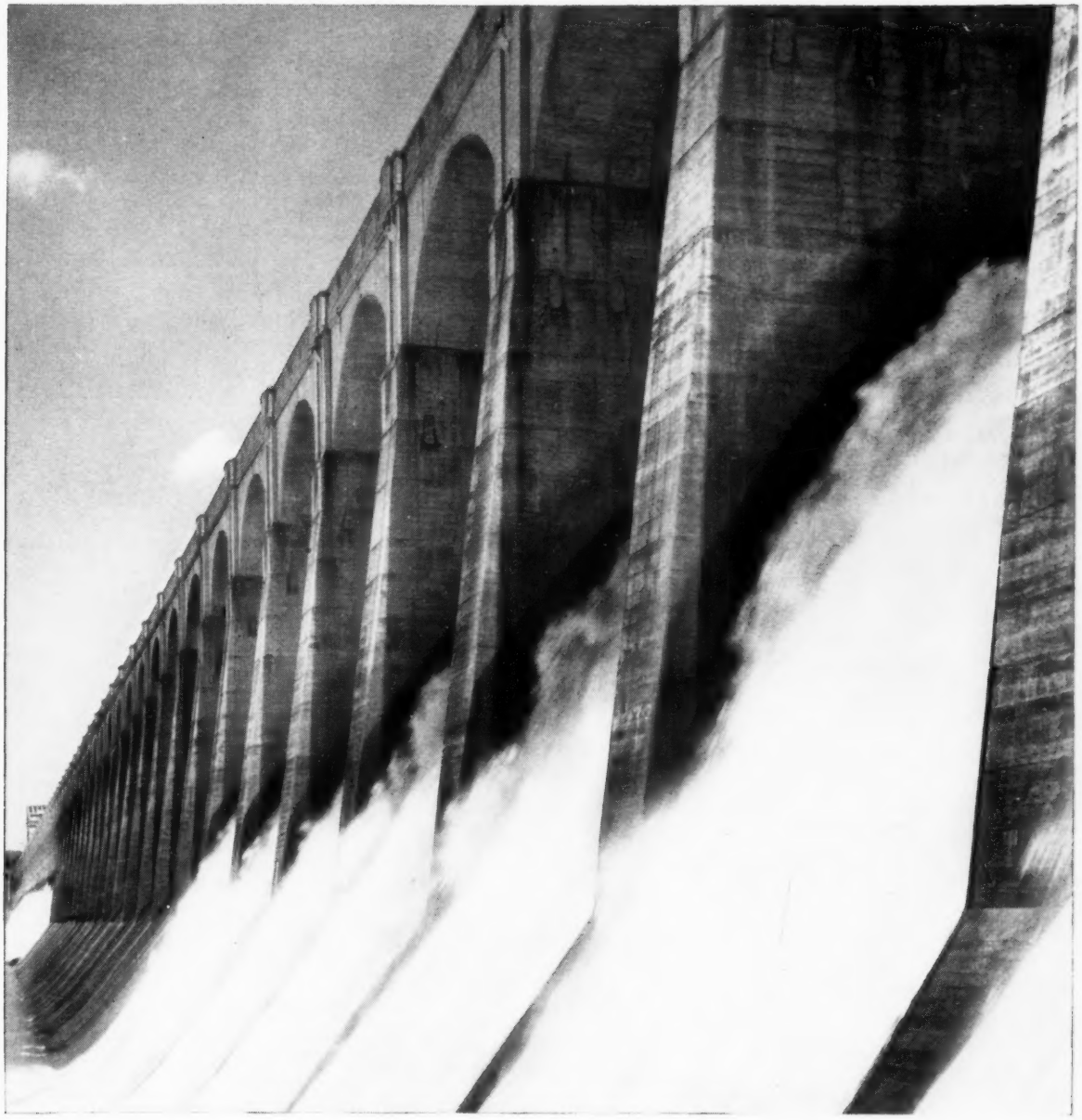

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WASHINGTON DIGEST

See 425-Million-Bu. Crop

By PORTER M. HEDGE

Washington Correspondent for The Soybean Digest

1956 CROPS. Size of the soybean crop and of 1956-57 bean and edible oil exports are the two big unknown —or only partly known—factors in the next marketing year. Continued heavy domestic demand is taken for granted.

Officials emphasize the importance of exports the coming year to have a "healthy" market situation. They think exports will be large, but they can't be sure yet how large.

USDA figures tentatively on a 425-million-bushel bean crop. They were surprised at the big jump in acreage above last year and above March intentions to plant.

USDA won't be surprised if the bean crop turns out to be 440 or even 450 million bushels. Growing conditions throughout the bean belt are reported very good in most places.

A crop of 425 million bushels would mean an average yield of only about 20 bushels to the acre. The record was set in 1949 with 22.3 bushels per acre. The yield in 1950 was 21.7 bushels. Officials are inclined to think yields will average 21 bushels or a little more this year.

USDA expects a cotton crop of about 13½ million bales on the basis of 3% fewer acres than last year, and slightly lower yields. Growing conditions are good in most of the cotton belt. Private trade reports put the crop above USDA's tentative estimate. Some think the crop will be as large as last year's 14.7 million bales.

SUPPLIES. USDA comes up with a surprisingly good total supply situation for edible fats and oils for the next marketing year—if the bean and cotton crops are not much larger than present tentative estimates.

Here is the rough figuring: Reduced production of cottonseed oil and lard will more than offset increased soybean oil production. Carryover stocks of beans and edible oils will be smaller next Sept. 30 than a year ago that time. There will a sizable carryover of purchase authorizations for edible oils into the next marketing year. The net result would be a smaller total supply of edible oils next Oct. 1 than last Oct. 1.

USDA estimates that about 400 million pounds of edible oils had moved into export on the 480 program for the fiscal year ending last June 30—most of it from Oct. 1, 1955, to June 30, 1956. Of the remaining 300 million pounds out of the 700 million pounds covered by 480 agreements, 150 to 200 million pounds are expected to move during July-September. That leaves 100 to 150 million pounds to move into export after next Sept. 30.

New 480 agreements for the fiscal year 1957 won't be made for edible oils until more is known about the size of oilseed crops. Congress has voted new funds equal to the $1.5 billion total for all commodities for the last fiscal year. It has also turned down the Administration proposal to permit trading behind the Iron Curtain on the 480 program.

Officials point out that fats and oils are in a very different situation in the 480 program than other commodities in that there are no CCC stocks, no surpluses. Exports of fats and oils come out of production, and not out of accumulated surpluses. They say this is a challenge to the fats and oils industry because it's practically the only one that doesn't have accumulated surpluses hanging over its markets.

PRICE OUTLOOK. USDA estimates a carryover of 6 million bushels of soybeans next Oct. 1. Crushings for the 1956-57 season are expected to set a new record. New plants will probably be built. The bean carryover at the end of the 1956-57 marketing season is now estimated at 15 to 16 million bushels—if the 1956 crop is 425 million bushels.

Fairly good bean prices are expected by officials the coming year. They still doubt that prices will go below the support level unless the crop is much larger than now expected. The tendency here is to avoid bearishness on the "wonder crop."

It is pointed out that beans, more nearly than other farm commodities, move upward roughly in line with industrial expansion. USDA feeding men also say they don't know how high the limit is on livestock consumption of protein meals.

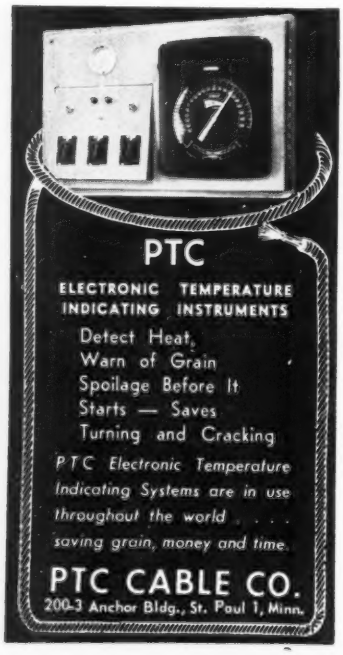
Olive oil production in 1956 in the Mediterranean Basin is estimated at about 1 million tons, or about the same as in 1954. The 1955 crop is estimated at 752,000 tons, the smallest in 5 years. These estimates are in line with unofficial ones we gave last month.

Despite the larger 1956 crop, USDA expects that area to be in the market for U. S. edible oils the coming year, though exports will probably be smaller than the past season.

FATS, OILS HEAD. George A. Parks, Jr., is succeeding Paul E. Quintus as head of the fats and oils division of USDA's Foreign Agricultural Service. Parks has been deputy director of the oils and peanut division of the Commodity Stabilization Service.

Mr. Quintus is now deputy assistant administrator of market developments and programs of FAS. He has charge of foreign competition studies and of marketing specialists going abroad, and will also have a hand in 480 program agreements in their early stages.

Mr. Parks is known as a good fats and oils man in CSS under James E. Thigpen, and before that in the PMA fats and oils branch. He is a native of Oklahoma and a graduate of Oklahoma A & M College. He worked in Oklahoma and Arkansas in the Agricultural Adjustment Administration. He served as an ensign in the Navy during World War II; since then he has been an agricultural economist in USDA.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DIVISION HEAD. Appointment of Bert W. Whitlock as director of the grain division in USDA's Agricultural Marketing Service has been announced.

Mr. Whitlock has been with the Department 39 years. During the past year he has been acting director of the grain division, and was in charge during hearings on the recent changes in the U. S. soybean grading standards.

Bert W. Whitlock

The grain division administers the U. S. grain standards act and the federal seed act. It issues a market news service on oilseed and other products, which is the basis of much of the information carried in the Soybean Digest's market section.

May Import More Oil

DENMARK may import more raw oils at the expense of oilseeds this year, according to Foreign Crops and Markets, U. S. Department of Agriculture. Overall trade in oilseeds and fats and oils is expected to remain at about the same level.

Danish oil mills are finding it difficult to market domestically produced oils due to the stiff competition from imported oils.

Danish imports of soybeans—which came entirely from the United States in 1955—are likely to show a different picture in 1956. The first cargo of Manchurian soybeans, approximately 5,500 tons, was unloaded in Copenhagen in the middle of April, and additional imports of the Manchurian soybeans undoubtedly will find their way to Denmark, if available.

Denmark: Imports of oilseeds and oil-bearing materials, by kind, annual 1953-1955 (short tons)

	1953	1954	1955
Copra	55,693	58,896	58,024
Cottonseed	3,229	12,142	
Flaxseed	4,207	2,719	3,700
Palm kernels	17,770	29,460	11,645
Sesame seed	5,273	6,177	3,730
Soybeans	60,492	63,014	91,591
Others	10,204	9,685	8,468
Total	156,868	182,093	177,158

Compiled from official sources.

Denmark: Imports of vegetable and marine oils, by kind, annual 1953-1955, (short tons)

	1953	1954	1955
Vegetable oils:			
Castor oil	292	354	473
Cottonseed oil		1,079	83
Linseed oil	3,155	11,200	7,129
Palm oil	218	1,454	11,965
Peanut oil	84	521	907
Rapeseed oil	22	1,515	44
Sesame oil			1,113
Tung oil	593	769	714
Others	647	650	746
Total	5,011	17,542	23,179
Marine oil:			
Whale oil	11,539	14,970	17,750
Other	4,591	6,947	3,792
Total	16,130	21,917	21,542

Compiled from official sources.

— MARKET STREET —

We invite the readers of THE SOYBEAN DIGEST to use MARKET STREET for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here.

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INSIST ON BLACK NYLON brushes for Clipper Cleaners. Carried in stock and shipped from Minneapolis. New and used grain and seed cleaning equipment bought and sold. Len Jacobson Co., 3437 Fifth Avenue South, Minneapolis, Minn.

FISCHBEIN PORTABLE BAG closers in stock for immediate shipment. Write for circular and prices. Douglas L. Mains Co., 1034 College Ave., Wheaton, Ill.

ONE HAY DIXIE HAMMER MILL; one 200 h.p. Worthington diesel; one 120 h.p. Fairbanks diesel; three large corn shellers. C. L. Smith, Leola, Pa.

TESTING EQUIPMENT: ALL makes, new and used, moisture testers. Also complete grain and seed testing and handling equipment and supplies. Write for free catalog. Burrows Equipment Co., 1316-D Sherman Ave., Evanston, Ill.

PLANT SUITABLE FOR SOYBEAN processing available in Baltimore, Md. Full transit privileges, Randolph Drier, unloading equipment, land available to expand storage. Beans this section now sold for export, considerably under domestic price from west. E. H. Beer & Company, Inc., 310 Chamber of Commerce Building.

NEW AND USED PORTABLE FEED mills. H. L. Myers, Route 3, Alliance, Ohio. Phone 7044.

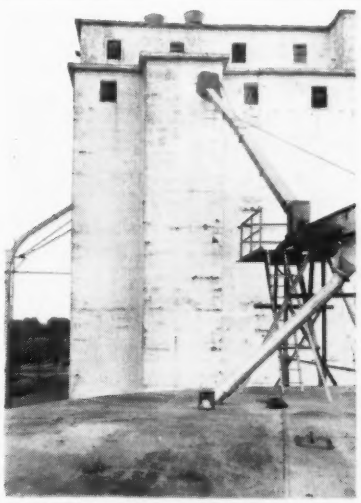
AVAILABLE — COMPLETE FILE of all issues of the Soybean Digest, first issue to date. Write Box 319-D, Soybean Digest, Hudson, Iowa.

WANTED—SEED CLEANER. MUST be in good condition. Give details including capacity and price. Box 319-S, Soybean Digest, Hudson, Iowa.

FOR SALE — RICHARDSON AND Fairbanks scales, Niagara vibrating screen, Buckeye engine, Titusville boiler, meal coolers, condensers, Roots-Connersville blowers, heat exchangers, hammer mills, Eureka dust collectors, pumps, valves, electric motors and electrical starting equipment, A-1 condition. Contact Lee Atherton, Archer-Daniels-Midland Co., Investors Bldg., Minneapolis, Minn.

WANTED—SOYA MILL MANAGER interested locating Florida. Must be thoroughly experienced operating small mill. State experience and salary. Box 319-O, Soybean Digest, Hudson, Iowa.

BINS FOR SURPLUS STORAGE. We have available a limited number of surplus government type grain bins, 18 ft. x 16 ft. at attractive prices. For particulars, write Midwest Steel Products Co., Railway Exchange Building, Kansas City, Mo.



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Your John Deere dealer will be glad to give you complete details on the combine that best fits your acreage. See him the next time you're in town.

Above is the big 55 handling four rows of beans at a time. Below is the 45 handling three rows at a time. No matter how heavy your beans, these John Deere Self-Propelleds have plenty of capacity to do a good job of saving them.

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LATE REPORTS

STOCKS. Stocks of soybeans in all storage positions on July 1 totaled 64.2 million bushels, according to reports assembled by the USDA crop reporting board. These stocks are 3.5% below the record high stocks of a year earlier.

Farm stocks on July 1 were low, amounting to 7.1 million bushels compared with 32.8 million in 1955. Interior mill, elevator and warehouse stocks at 9.4 million bushels totaled only about one-half those of a year earlier.

U. S. stocks of soybeans, July 1, 1956 with comparisons (1,000 bu.)

Position	Reported by	July 1 1954	July 1 1955	April 1 1956	July 1 1956
On Farms	Crop Reporting Board	3,645	32,755	59,834	7,131
Terminals	Grain Division AMS	3,917	2,385	22,193	11,033
Commodity Credit Corp. [1]	Commodity Credit Corp.	0	1,582	0	0
Processing Plants [2]	Bureau of Census	24,598	10,775	67,366	36,651
Int. Mills Elev. & Whses.	Crop Reporting Board	3,454	18,963	26,979	9,377
TOTAL		35,614	66,460	176,372	64,197

[1] Owned by CCC in transit. [2] All off-farm storages not otherwise designated.

Stocks of soybeans, by states, July 1, 1955 and 1956 (1,000 bu.)

State	Off-farm total July 1 1955	Off-farm total July 1 1956	All positions July 1 1955	All positions July 1 1956
Ohio	2,257	5,558	4,361	6,289
Ind.	1,905	3,366	5,861	4,024
Ill.	8,877	22,619	16,894	24,585
Minn.	6,265	5,196	13,425	6,075
Iowa	9,595	8,440	17,494	9,747
Mo.	795	2,691	2,649	3,031
Neb.	342	*	706	*
Kans.	196	338	288	372
N. C.	38	110	87	262
Other *	3,435	8,748	4,695	9,812
U. S.	33,705	57,066	66,460	64,197

* Other states and unallocated to avoid disclosing individual operations.

SUPPLY AND DISTRIBUTION of the 1952-55 soybean crops, reported by Agricultural Marketing Service (1,000 bu.)

Item	1952-53	1953-54	1954-55	1955-56
Carryover, Oct. 1	3,575	10,137	1,336	9,957
Production	298,839	269,169	341,075	371,276
Total supply[1]	302,414	279,306	342,411	381,233
Farm use, including seed for season	25,180	24,530	25,000	28,000
Quantity remaining for processing, export, or carryover	277,234	254,776	317,411	353,233
Disappearance, October through June 30:				
Crushed for oil or processed[2]	183,730	171,861	189,060	221,078
Exported	27,695	37,285	48,709	57,662
Total	211,425	209,146	237,769	278,740
Balance on July 1 for processing, export, or carryover	65,809	45,630	79,642	74,493

[1] Imports negligible. [2] No allowance is made for new crop crushings prior to Oct. 1.

PROCESSING OPERATIONS. Reported by Bureau of the Census for May and June.

Primary products except crude oil at crude oil mill locations: Production, shipments and transfers, and stocks June 1956-May 1956. (tons)

	Production June 1956	Production May 1956	Shipments and transfers June 1956	Shipments and transfers May 1956	Stocks end of month June 30 1956	Stocks end of month May 31 1956
Soybean:						
Cake and meal	517,242	570,221	512,088	558,897	217,946	212,792
Flour	8,060	7,882	8,508	7,469	1,722	2,170
Lecithin	1,324	1,401	(NA)	(NA)	1,640	2,009

NA—Not available.

Soybeans: Net receipts, crushings, and stocks at oil mills, by states, June 1956-May 1956 (tons)

State	Net receipts at mills June 1956	Net receipts at mills May 1956	Crushed or used June 1956	Crushed or used May 1956	Stocks at mills June 30 1956	Stocks at mills May 31 1956
U. S.	313,696	452,824	666,902	738,011	1,099,525	1,452,731
Illinois	114,646	154,521	238,262	245,184	437,405	561,021
Indiana	47,420	48,653	72,706	80,943	85,692	110,978
Iowa	73,449	97,838	103,397	124,976	175,269	205,217
Kansas	(1)	(1)	(1)	(1)	(1)	(1)
Kentucky	2,253	4,161	13,895	(1)	27,203	38,843
Minnesota	22,766	67,757	37,937	51,224	53,315	68,486
Missouri	(1)	(1)	25,678	28,525	55,179	(1)
Nebraska	(1)	(1)	.....	(1)	(1)	(1)
No. Carolina	(1)	(1)	(1)	2,883	1,756	(1)
Ohio	31,240	40,774	71,209	68,254	125,865	165,834
Texas	(1)	(1)	(1)	(1)	(1)	(1)
All other	21,920	39,120	103,818	136,022	137,841	302,352

[1] Included in "All other" to avoid disclosure of figures for individual companies.

Soybean products: Production and stocks at oil mill locations, by states, June 1956-May 1956

State	Crude Oil (thousands of pounds) Production June 1956	Production May 1956	Stocks June 30 1956	Stocks May 31 1956	Cake and meal (tons) Production June 1956	Production May 1956	Stocks June 30 1956	Stocks May 31 1956
U. S.	248,636	273,348	93,288	87,328	517,242	570,221	217,946	212,792
Ill.	90,436	93,179	29,334	24,265	178,705	181,467	68,274	63,159
Ind.	27,084	29,971	16,829	15,949	57,580	63,663	65,044	65,037
Iowa	39,093	46,757	10,977	10,311	82,443	99,723	28,243	29,373
Kans.	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Ky.	5,001	(1)	(1)	(1)	10,357	(1)	765	(1)
Minn.	13,911	18,515	3,896	7,506	29,049	39,047	4,745	6,084
Mo.	9,635	10,424	3,810	3,706	20,459	22,747	5,558	2,508
Nebr.	.....	(1)	(1)	(1)	.....	(1)	(1)	(1)
N. Car.	(1)	850	(1)	(1)	(1)	2,431	5,160	6,290
Ohio	25,948	25,017	4,876	5,794	56,139	54,502	2,659	2,553
Texas	(1)	(1)	.....	(1)	(1)	(1)	(1)	(1)
All other	37,528	48,635	23,566	19,797	82,510	106,641	37,498	37,788

[1] Included in "All other" to avoid disclosure of figures for individual companies.

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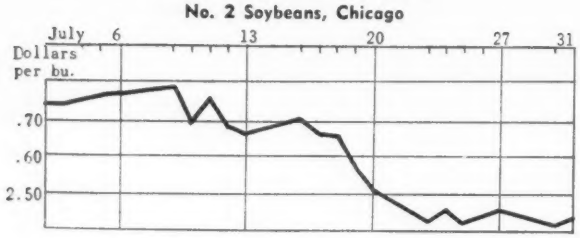
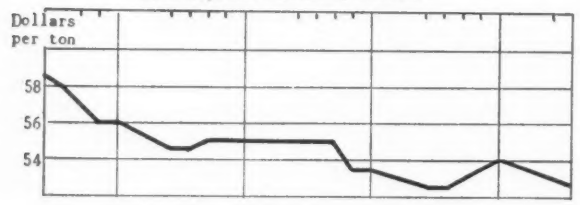
DAILY MARKET PRICES

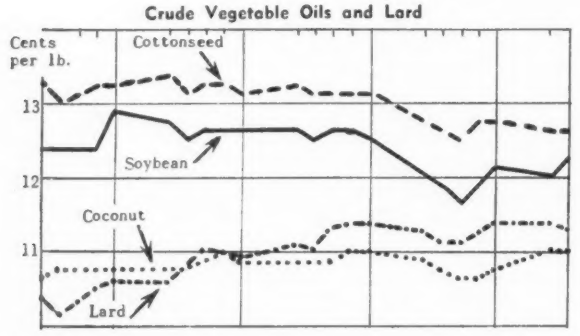
No. 2 Soybeans, Chicago



Bulk Soybean Oil Meal, Decatur

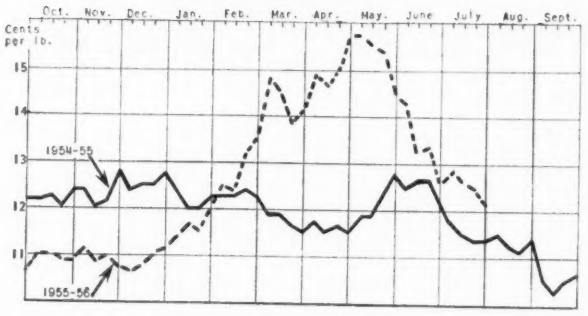


Crude Vegetable Oils and Lard

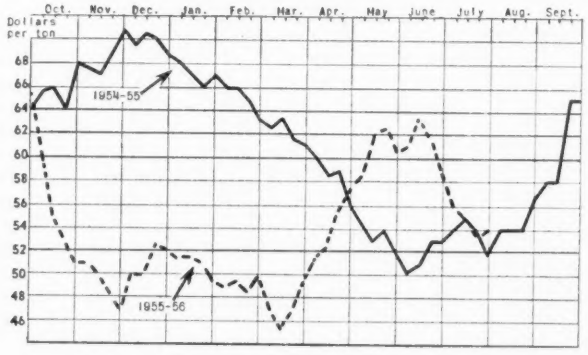


TRENDS AT A GLANCE (Weekly Close)

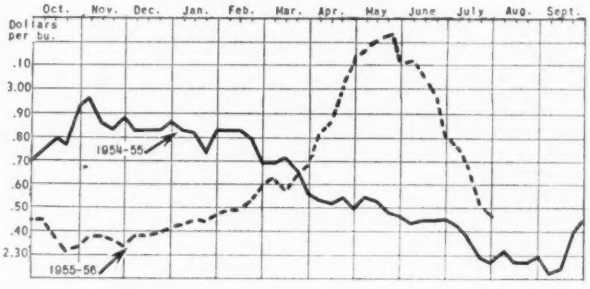
Near Futures Soybeans, Chicago



Bulk Soybean Oil Meal, Decatur



Crude Soybean Oil, Tankcars



July Markets

SOYBEANS, meal and oil all continued in July the slide begun in May. Losses were rather impressive as new and old crop beans approached the same level.

July soybean futures were off almost $1 from the season's high at expiration of the contract. Spot meal was at the lowest level since April and off $10.50 from the season's high. Spot soybean oil lost 1¼¢ during the month, but regained some ground at month's end.

In addition to the fact that the declines were a reaction from the strongly speculative markets this spring, strongest factor in the declines were the 2-million-acre national increase in the soybean crop reported by the U. S. Department of Agriculture and the generally good growing conditions which were leading to predictions of a crop 50 to 75 million bushels larger than last year.

There were heavy receipts of old crop soybeans at Chicago, pushing stocks at that point to a new high for the time of year, and distress supplies of both beans and meal were reported in Chicago.

Both exporters and refiners were reported to be delaying purchases and refiners were said to be buying hand-to-mouth.

Bullish factors that apparently were not fully reflected in the markets included:

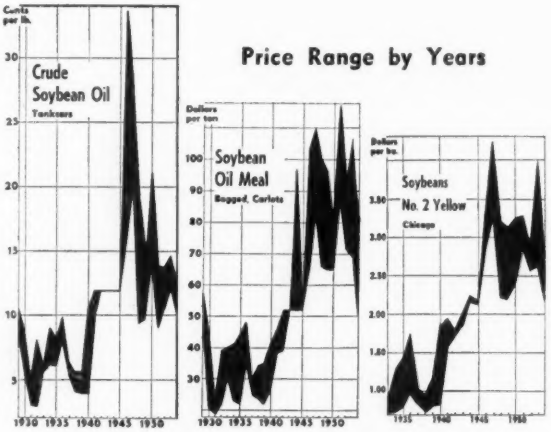
1—Smaller stocks of soybeans than were available at this time last year.

2—Probable larger exports in the next few weeks and the belief that domestic refiners would soon have to buy in larger quantity.

3—The fact that the critical period for the 1956 crop is still ahead.

BYPRODUCTS. The price for soybean fatty acids remained at 15¼¢ per pound during June. Acid soybean soap stocks remained at 7⅛¢, and raw soybean soap stocks at 3¼¢.

Price Range by Years



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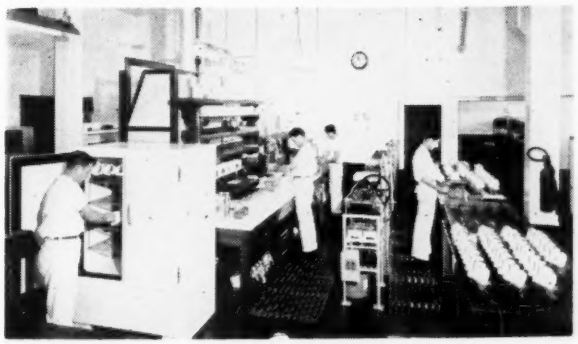

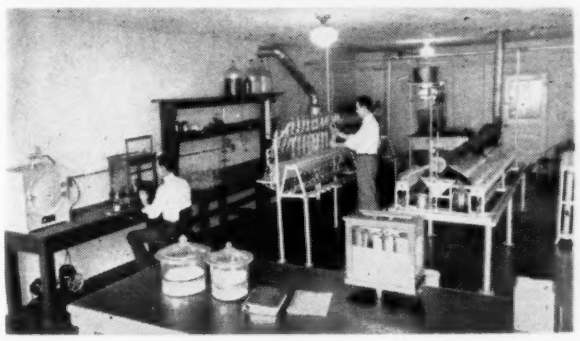

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"Over *Two Billion dollars* worth of products analyzed since 1935."

IN THE MARKETS

FACTORY USE VEGETABLE OILS for April and May. Reported by Bureau of the Census (1,000 lbs.)

Primary Materials: Factory Production and Consumption, and Factory and Warehouse Stocks, May 1956-April 1956

	Factory production		Factory consumption		Factory and warehouse stocks	
	May 1956	April 1956	May 1956	April 1956	May 31 1956	Apr. 30 1956
Cottonseed, crude	91,144	136,275	120,866	159,085	74,437	123,785
Cottonseed, refined	112,797	148,190	125,619	116,489	[1]384,109	[1]416,113
Corn, crude	23,603	21,270	23,443	22,139	13,771	13,448
Corn, refined	22,052	20,633	21,220	21,049	8,880	8,565
Soybean, crude	273,378	280,688	269,979	238,945	172,649	176,400
Soybean, refined	249,051	218,831	229,034	192,705	123,747	104,987
Linseed, raw	59,614	43,243	43,515	37,723	136,682	125,738
Linseed, refined	20,044	16,844	21,337	19,921	33,852	34,633
Vegetable foots (100% basis)	20,459	21,228	14,897	13,436	50,305	52,845

[1]Includes an insignificant quantity of refined cottonseed oil reported by respondents to the Census Bureau as owned by Commodity Credit Corp.

Factory consumption of animal and vegetable fats and oils, by uses, during May 1956

	Edible Products				Inedible products		
	Shortening	Margarine	Other edible	Soap	Paint & varnish	Lubricants & similar oils[1]	Other inedible[2]
Cottonseed, refined	12,865	2,764	3,271				283
Peanut, refined			510				215
Corn, refined			9,475				
Soybean, crude					442		2,304
Soybean, refined	37,373	5,821	5,369	17	7,346	17	7,400
Foots, vegetable, raw and acidulated (100% basis)				2,387	127	800	710
Hydrogenated vegetable oils, edible:							
Cottonseed	15,354	18,942					
Soybean	31,484	52,715	1,636				
Other	2,782	1,366					

[1] Includes quantities consumed in lubricants, greases, cutting oils, dielectric oils, core oils, brake fluids, and metal working. [2] Quantities consumed in linoleum and animal feeds, shown separately below, are included in the above totals. Data for fats and oils consumed in chemicals and linoleum and oilcloth, which were previously shown separately, are now included in "Other inedible" while quantities consumed in core oils, cutting oils, brake fluids, dielectric oils, and metal working, formerly included in this total, are now classified in "Lubricants and similar oils." The quantities, in thousand pounds, consumed in linoleum total 9,362. The quantities in thousand pounds consumed in animal feeds total 9,362. Vegetable foots total 220. [3] Not show to avoid disclosure of figures for individual companies

Consumption of primary and secondary fats and oils in fat splitting

	1956			1955	
	May	April	Jan.-May Cumulative	May	Jan.-May Cumulative
Soapstocks					
Vegetable foots	10,270	8,954	47,145	9,789	46,759

Source: U. S. Census Bureau.

FUTURES. Activity in the grain futures markets, and in fat and oil futures, increased in the fiscal year ended June 3 and was at record levels in soybeans, soybean oil, and soybean oil meal, the U. S. Department of Agriculture reports.

Activity in soybeans, principally on the Chicago Board of Trade, amounted to 5.5 billion bushels, which was a larger volume than in any previous fiscal year, and accounted for more futures trading in the Chicago market than any other commodity.

Trading in fat and oil futures, influenced by active domestic and export demand, increased markedly over the previous year. The soybean oil volume, largely on the Chicago Board of Trade, amounted to 8.2 billion pounds compared with 4.3 billion in 1954-55.

Volume of futures trading, all contract markets combined, fiscal years ended June 30, 1955, and June 30, 1956

Commodity	Unit	1954-55	1955-56	Percent of increase or decrease
Soybeans	1,000 bu.	4,952,249	5,541,841	+ 11.9
Cottonseed oil	1,000 lbs.	825,180	3,451,860	+318.3
Soybean oil	1,000 lbs.	4,318,500	8,185,200	+ 89.5
Lard	1,000 lbs.	2,027,320	1,974,720	— 2.6
Cottonseed meal	tons	217,400	246,600	+ 13.4
Soybean meal	tons	5,741,300	6,663,000	+ 16.1

Volume of futures trading, by contract markets, by commodities, fiscal years ended June 30, 1955, and June 30, 1956

Commodity	Unit	1954-55	1955-56	Percent of increase or decrease
Chicago Board of Trade				
Cottonseed oil	1,000 lbs.	480	4,920	+925.0
Soybean oil	1,000 lbs.	3,906,840	7,960,080	+103.7
Lard	1,000 lbs.	2,027,320	1,974,720	— 2.6
Soybean meal	tons	5,569,000	4,950,100	+ 38.7
Chicago Open Board of Trade				
Soybeans	1,000 bu.	70,431	61,859	— 12.2
Minneapolis Grain Exchange				
Soybeans	1,000 bu.		[1] 2,854	...
New York Produce Exchange				
Cottonseed oil	1,000 lbs.	824,700	3,446,940	+318.0
Soybean oil	1,000 lbs.	411,660	225,120	— 45.3
Memphis Board of Trade Clearing Association				
Cottonseed meal	tons	217,400	246,600	+ 13.4
Soybean meal	tons	2,172,300	1,712,900	— 21.1
Soybeans	1,000 bu.	1,035	[2] 15	— 98.6

[1]Trading reopened July 15, 1955. [2]Trading suspended Jan. 23, 1956.

PRICES. Average prices for soybeans received by farmers, effective parity, and support rates (dollars per bushel)

Average farm price			Effective parity	Av. price as percent of parity		National average price support rate	
June 15 1955	May 15 1956	June 15 1956	June 15 1956	June 15 1956	1954 crop	1955 crop	1956 crop
2.32	2.98	2.87	2.92	98	2.22	2.04	2.15

Average farm and parity prices from crop reporting board.

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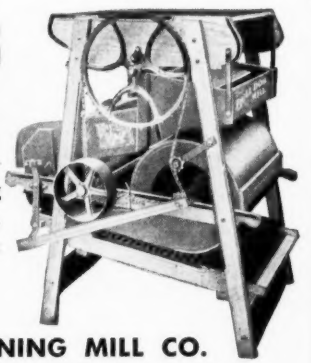

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STOCKS ON FARMS. Stocks of soybeans on farms July 1 are estimated at only 7.1 million bushels, less than one-fourth the 32.8 million bushels on hand a year ago. The 10-year average July 1 farm stocks are 8.2 million bushels.

Disappearance from farms of 52.7 million bushels from Apr. 1 to July 1 was about one-third less than that of last year since farm stocks on Apr. 1 were already at a relatively low level.

Soybean stocks on farms July 1 (1,000 bu.)

State	Average 1945-54	1955	1956	State	Average 1945-54	1955	1956
N. Y.	13	10	8	Del.	48	15	21
N. J.	27	26	27	Md.	42	65	31
Pa.	38	25	24	Va.	77	57	100
Ohio	857	2,104	731	N. C.	122	49	152
Ind.	1,082	3,956	658	S. C.	38	20	55
Ill.	2,304	8,017	1,966	Ga.	5	4	14
Mich.	74	94	121	Fla.	[1]	3	8
Wis.	40	40	34	Ky.	78	32	48
Minn.	573	7,160	879	Tenn.	44	43	22
Iowa	1,879	7,899	1,307	Ala.	13	23	43
Mo.	541	1,854	340	Miss.	57	52	119
N. Dak.	8	52	24	Ark.	107	275	219
S. Dak.	38	395	112	La.	10	25	10
Nebr.	17	364	19	Okla.	7	4	5
Kans.	76	92	34	U. S.	8,219	32,755	7,131

[1] Short-time average. U. S. Department of Agriculture crop reporting board.

EXPORTS. U. S. exports of soybeans and soybean oil for May. Preliminary data by Foreign Agricultural Service, U. S. Department of Agriculture.

Soybeans	4,329,546 bu.
Soybean oil:	
Crude	5,084,030 lbs.
Refined but not further processed	5,129,385 lbs.
Refined deodorized and hydrogenated	37,735,166 lbs.

Converted to a soybean equivalent basis the exports for May amounted to 8,930,680 bushels. This compares with 8,089,048 bushels in April, and with 3,519,731 bushels in May 1955.

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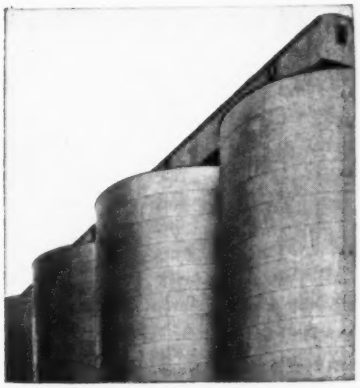

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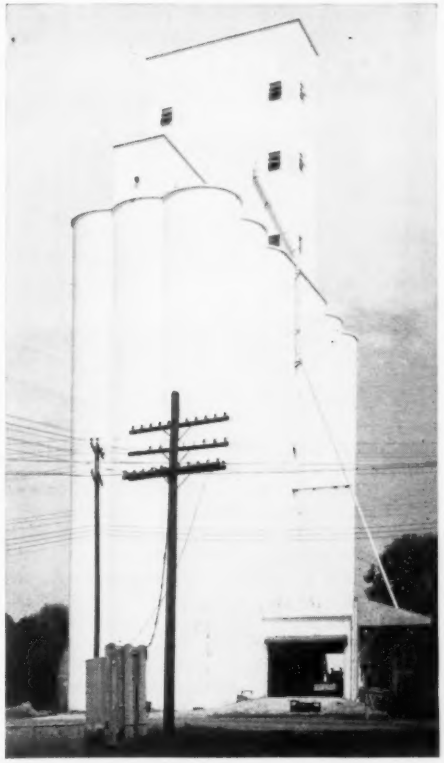
WATER RESISTANT BINKOTE SEALS THE SURFACE . . . PENETRATES DEEPLY TO GIVE EXTRA PROTECTION AGAINST:

- **MOISTURE,** which causes hair line checking and ultimate deterioration of the concrete.
- **FREEZING,** which can cause peeling of the paint as well as spalling of the concrete.
- **ALKALI,** which is present in all masonry and will corrode the paint if allowed to get wet.
- **OXIDATION** of the paint film, which is hastened by the presence of moisture.

Be Safe, Use Binkote!

Write Today For descriptive literature and information pertaining to your particular needs.

Supply Service, Inc. 528 South Main Street Hutchinson, Kansas



OHIO GRAIN COMPANY—MARYSVILLE, OHIO

JONES-HETTELSATER CONSTRUCTION CO.

35 YEARS as Designers and Builders

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FLOUR MILLS
ELEVATORS
FEED & SOYBEAN PLANTS

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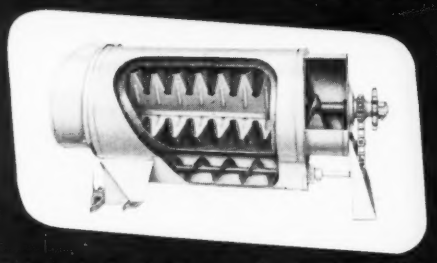
1911 Baltimore Ave.
KANSAS CITY 8, MISSOURI

SCOURKLEEN TURNS LOSS INTO PROFIT!



A Recleaner for Combine Harvester Threshers. Standard of the Industry for over 27 Years.

Stiffer grading standards mean more dockage loss on beans this year. Stop this *unnecessary* loss with a ScourKleen! ScourKleen mounts right on your combine and removes dockage before it leaves the field—delivers it to separate sack or tank.

A farm tested and proved machine, ScourKleen fits all combines . . . has interchangeable screens for all crops . . . superior centrifugal action . . . even removes pigweed seed. Improve your grain and save dockage for feeding . . . ScourKleen pays for itself in a single season.

Available from combine manufacturers, their branches and dealers.

HART-CARTER COMPANY
PEORIA, ILLINOIS

Soybeans: Inspections for overseas export by ports and country of destination June 18-July 13. Reported by Agricultural Marketing Service (1,000 bu.)

	Philadelphia	Baltimore	Norfolk	New Orleans	Mobile	Port Allen La.	Total
Belgium	65,401	22,027	18,666				106,094
Holland			18,667	18,667			37,334
Japan			32,536	1,631,312		360,886	2,024,734
Korea				129,050			129,050
Formosa				206,205	349,082		555,287
Total	65,401	22,027	69,869	1,985,234	349,082	360,886	2,852,499

Total exports and inspections for export Oct. 1-July 13, 58,762,000 bushels compared with 50,726,000 bushels for the same period a year ago. Total clearance from the Port of New Orleans July 1, 1955, to July 1, 1956, 36,789,000 bushels, according to the New Orleans Board of Trade.

STOCKS. Agricultural Marketing Service's commercial grain stocks reports for close of business on Friday and Saturday preceding date of report (1,000 bu.)

	June 26	July 3	July 10	July 17
U. S. soybeans in store and afloat at domestic markets				
Atlantic Coast	863	807	560	708
Gulf Coast	2,149	1,537	1,963	1,443
Northwestern and Upper Lake	2,364	1,694	1,208	1,015
Lower Lake	6,339	6,548	6,568	6,796
East Central	561	531	428	166
West Central, Southwestern & Western	935	853	809	799
Total current week	13,211	11,970	11,536	10,927
Total year ago	2,463	2,079	2,489	2,769
U. S. soybeans in store and afloat at Canadian markets				
Total current week	0	0	0	0
Total year ago	0	0	0	0
Total North American commercial soybean stocks				
Current week	13,211	11,970	11,536	10,927
Year ago	2,463	2,079	2,489	2,769

Primary receipts (1,000 bu.) of soybeans at important interior points for week ending:

	May 25	June 1	June 8	June 22	June 29	July 6	July 13
Chicago	519	459	257	372	727	715	1,146
Indianapolis	39	36	73	63	63	69	57
Kansas City	46	32	44	13	11	10	2
Minneapolis	126	109	72	64	40	23	14
Omaha	45	22	34	4		5	5
Peoria	29	19	50	29	57	24	34
Sioux City	7	9	8	18	15	7	21
St. Joseph		4	7	2	4	5	62
St. Louis	33	11	11	32	3	2	2
Toledo	69	48	49	59	41	60	40
Total	913	749	605	656	961	920	1,383
Last week	961	913	749	586	656	961	920
Last year	1,294	824	906	862	1,328	1,309	1,658
Total Chicago soybean stocks	6,552	6,092	5,604	5,724	5,910	6,156	6,531

INSPECTIONS. Soybeans, inspected by grades and percent, as reported by Agricultural Marketing Service.[1]

Grade	Oct.-June 1954-55		Oct.-June 1955-56		June 1955		May 1956		June 1956[2]	
	1,000 bu.	Pct.	1,000 bu.	Pct.	1,000 bu.	Pct.	1,000 bu.	Pct.	1,000 bu.	Pct.
No. 1	36,865	18	53,977	21	6,036	29	3,260	22	2,090	19
No. 2	106,877	52	123,315	49	11,651	56	6,293	43	5,027	45
No. 3	44,740	21	51,174	20	2,079	10	3,489	24	2,738	25
No. 4	12,549	6	18,700	8	663	3	1,261	9	994	9
Sample	5,998	3	5,586	2	320	2	372	2	234	2
Total	207,029	100	252,752	100	20,749	100	14,675	100	11,083	100

[1] Carlot receipts have been converted to bushels on the basis that 1 carlot equals 1,750 bushels. [2] Of the June 1956 receipts, 350 bushels were black, 32,200 mixed, 3,500 brown, and the remainder yellow soybeans. Inspections of soybeans in June included 2,993,000 bushels as cargo lots, 1,065,057 bushels as truck receipts, and the balance as carlot receipts. Based on reports of inspections by licensed grain inspectors at all markets.

LOANS. Soybean loan repayments and loan and purchase agreement deliveries for 1955 crops through June 15 (1,000 bu.)

Warehouse and farm loans			Purchase agreements		
Total under loan	Quantity repaid	Quantity delivered to CCC	Quantity under agreements	Quantity producers elected to deliver	Quantity delivered
27,489	27,056	9	2,643	0	0

SHORTENING. Standard shortening shipments reported by the Institute of Shortening and Edible Oils, Inc., in pounds.

June 23	5,083,334
June 30	4,366,984

Future Urbana-Champaign Home of The HumKo Company

This is the architect's drawing of our proposed new plant now under construction in Urbana - Champaign, Illinois.

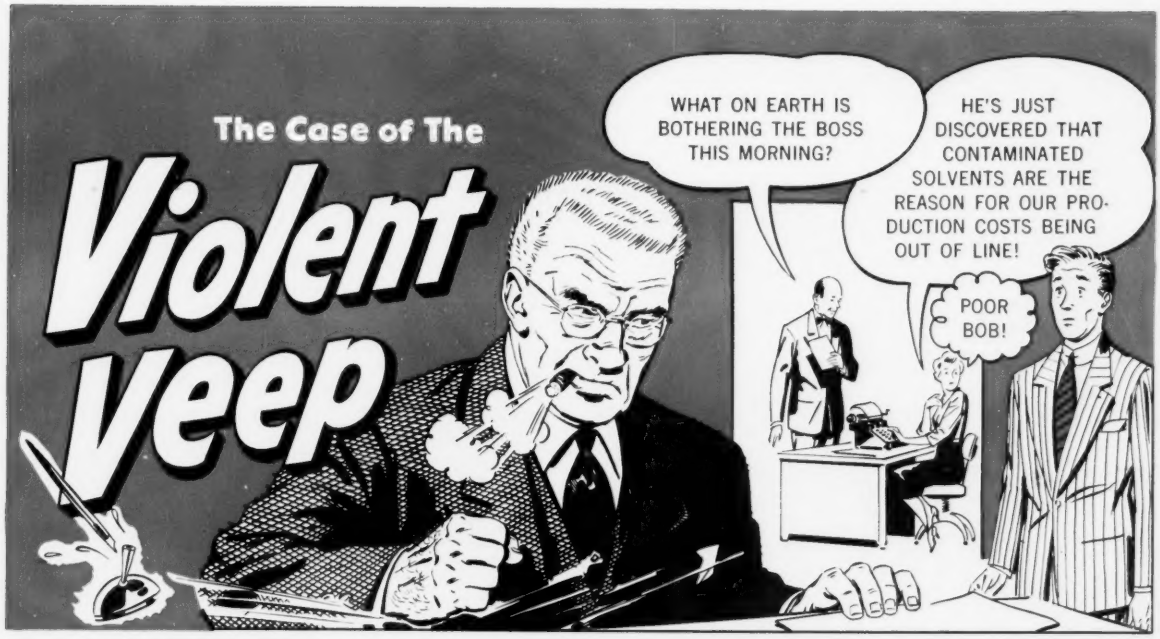
Here, in a multi-million dollar, ultra modern refinery, we will serve our shortening and oil customers from coast to coast.

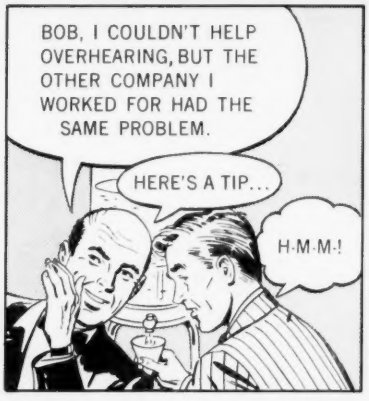
The plant is scheduled for completion in 1957.

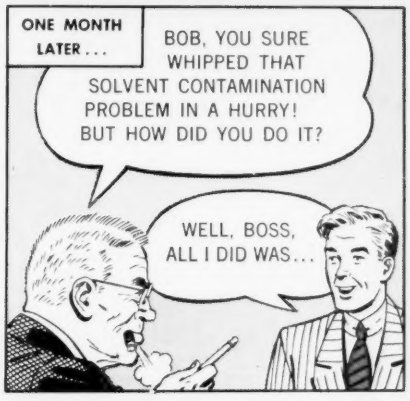
THE HUMKO CO.

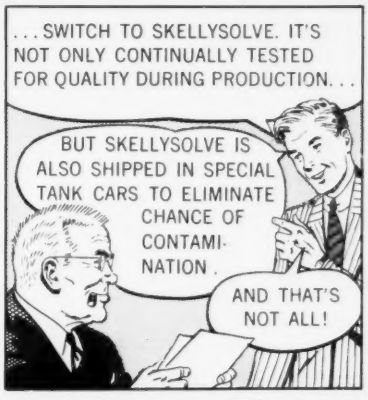
edible
oil
specialists

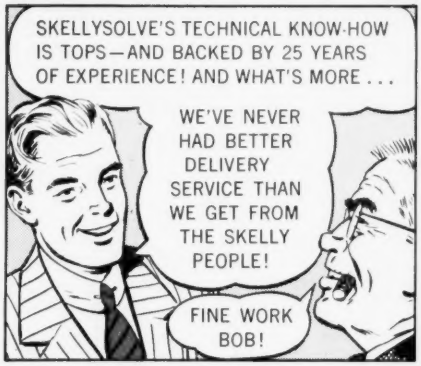
UNIVERSITY MICROFILMS
313 N. FIRST ST.
ANN ARBOR, MICHIGAN


The Case of The
Violent Veep
WHAT ON EARTH IS BOTHERING THE BOSS THIS MORNING?
HE'S JUST DISCOVERED THAT CONTAMINATED SOLVENTS ARE THE REASON FOR OUR PRODUCTION COSTS BEING OUT OF LINE!
POOR BOB!

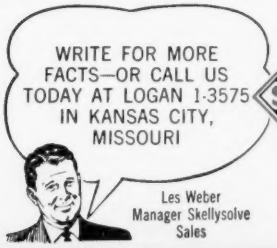



ONE MONTH LATER...
BOB, YOU SURE WHIPPED THAT SOLVENT CONTAMINATION PROBLEM IN A HURRY! BUT HOW DID YOU DO IT?
WELL, BOSS, ALL I DID WAS...


...SWITCH TO SKELLYSOLVE. IT'S NOT ONLY CONTINUALLY TESTED FOR QUALITY DURING PRODUCTION...
BUT SKELLYSOLVE IS ALSO SHIPPED IN SPECIAL TANK CARS TO ELIMINATE CHANCE OF CONTAMINATION.
AND THAT'S NOT ALL!


SKELLYSOLVE'S TECHNICAL KNOW-HOW IS TOPS—AND BACKED BY 25 YEARS OF EXPERIENCE! AND WHAT'S MORE...
WE'VE NEVER HAD BETTER DELIVERY SERVICE THAN WE GET FROM THE SKELLY PEOPLE!
FINE WORK BOB!

Discover what Skellysolve quality and service can mean to *your* business.



SKELLY **Skellysolve**

SKELLY OIL COMPANY

Industrial Division

605 West 47th Street, Kansas City 41, Mo.

Skellysolve for Animal and Vegetable Oil Extraction

APPLICATIONS

SKELLYSOLVE-B. Making edible oils and meals from soybeans, corn germs, flaxseed, peanuts, cottonseed and the like. Closed cup flash point about -25°F.

SKELLYSOLVE-C. Making both edible and inedible oils and meals, particularly where lower volatility than that of Skellysolve-B is desired because of warm condenser water. Closed cup flash point about 13°F.

SKELLYSOLVE-F. Extracting cottonseed, soybean meals and other products in laboratory analytical work. Originally made to conform to A.O.C.S. specifications for petroleum ether, and pharmaceutical extractions, where finest quality solvent is desired. Closed cup flash point about -50°F.

SKELLYSOLVE-H. Making edible and inedible oils and meals where greater volatility is desired than that of Skellysolve C or L. Closed cup flash point about -16°F.

SKELLYSOLVE-L. For degreasing meat scraps, extracting oil-saturated fuller's earth or other general extraction. Closed cup flash point about 12°F.

Ask about our new
Skelly Petroleum Insoluble Grease.